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UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA - WESTERN DIVISION

HONORABLE STANLEY BLUMENFELD, JR., U.S. DISTRICT JUDGE

SANTA CLARITA VALLEY WATER AGENCY,)
)
Plaintiff,)
)
v.) Case No.
) CV 18-6825 SB (RAOx)
WHITTAKER CORPORATION, et al.,)
) Volume 12
Defendants.) (Pages 1250 - 1422)
)

REPORTER'S TRANSCRIPT OF TRIAL PROCEEDINGS
TRIAL DAY 7: A.M. SESSION
MONDAY, NOVEMBER 29, 2021
8:11 A.M.
LOS ANGELES, CALIFORNIA

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1 MONDAY, NOVEMBER 29, 2021; 8:11 A.M.

2 LOS ANGELES, CALIFORNIA

3 -oOo-

4 (Out of the presence of the jury:)

5 THE COURTROOM DEPUTY: Calling Item No. 1, Case
6 No. CV 18-06825 SB, Santa Clarita Valley Water Agency versus
7 Whittaker Corporation, et al.

8 Counsel, please state your appearance, starting with
9 plaintiff's counsel.

10 MR. RICHARD: Good morning. Patrick Richard. And
11 with me is Ms. McGuane, Mr. Gee, and Ms. Micevych.

12 THE COURT: Good morning.

13 MR. BLUM: Good morning, Your Honor. Fred Blum for
14 defendants. With me is the client representative,
15 Eric Lardiere, and Mr. Trowbridge.

16 THE COURT: Good morning. We are outside the
17 presence of the jury.

18 There are a number of issues that arose -- let me
19 hear, first of all, what the order of your witnesses are today,
20 Mr. Blum.

21 MR. BLUM: Yes, Your Honor. We will begin with
22 Dr. Steffey who I confirmed was in the -- about to get in the
23 security line around 8:00 o'clock this morning. And then after
24 that, it will be Mr. Alvord, then Mr. Leserman. And if we have
25 to fill time, we're hoping to review -- or read -- or sorry,

1 play the video deposition of Meredith Durant.

2 THE COURT: Of who?

3 MR. BLUM: Of Meredith Durant, Your Honor. I
4 believe as to her, there are three or four objections. And I
5 think the binders have been given to the Court.

6 THE COURT: All right. Do you have Mr. Alvord and
7 Mr. Leserman here this morning as well?

8 MR. BLUM: I just confirmed with plaintiffs.
9 They're under subpoena, and they will be here this morning.

10 THE COURT: All right. Because there is a threshold
11 issue with Dr. Steffey. So let me hear, starting with you,
12 Mr. Richard -- and you could take the lectern, please -- and
13 explain to the Court what the issue is.

14 MR. RICHARD: Yes, Your Honor. Thank you.

15 The issue with Duane Steffey is the -- relates to
16 our motion in limine on other sources. And so this is where
17 the issue now comes to the fore, and that is that the Court had
18 drawn a line at speculation regarding other sources would be
19 inadmissible and that defendants would need to lay a --
20 defendant would need to provide a foundation.

21 The problem with Dr. Steffey is he does not provide
22 that foundation. He provides no statistical analysis at all.

23 THE COURT: You're going to need to back up for the
24 Court.

25 MR. RICHARD: Oh.

1 THE COURT: This -- no, no. Not back up physically.

2 MR. RICHARD: Sorry.

3 THE COURT: I have not been presented with anything
4 concerning Dr. Steffey. As best I can recall, there was a --
5 an in limine motion that was brought -- that was procedural in
6 nature. It was a question of whether or not he was presenting
7 a rebuttal report. I ruled on that.

8 MR. RICHARD: Yes, Your Honor.

9 THE COURT: That's the extent of my understanding of
10 Dr. Steffey.

11 MR. RICHARD: Right. Well, we have -- we had filed
12 a motion on other sources, and this falls under that general
13 ruling of in defendant's case they have a number of different
14 ways they want to raise this issue, beginning with Dr. Steffey.

15 So I had simply requested either the opportunity to
16 conduct voir dire before he offers his opinions or reserve my
17 right to move to strike after he testifies. So I don't want to
18 delay proceedings, but it's -- you know, there are only so many
19 motions in limine we could file. And I believe this fell
20 within the Court's ruling on other sources, speculation, lack
21 of foundation.

22 THE COURT: Perhaps you can just give me a 30- to
23 60-second preview as to what Dr. Steffey is going to testify
24 that you find to be objectionable.

25 MR. RICHARD: Yes, Your Honor.

1 Basically, he looked at test data from the turnouts
2 for the VOCs and compared it to test data from the effluent of
3 the SPTF treatment system and made some -- put some dots to
4 visualize the data and then to offer an opinion that sometimes
5 downstream we have higher hits than we do upstream and,
6 therefore, one of the potential explanations for that
7 phenomenon could be another source of these contaminants.

8 THE COURT: All right. And your objection,
9 essentially, is that, without a foundation that demonstrates
10 who these other sources are, it's speculative and irrelevant
11 and should be barred under 403?

12 MR. RICHARD: Yes, Your Honor. And in addition to
13 the fact that he just didn't do a -- what statisticians do, an
14 inferential analysis.

15 But yeah, the basic problem at this point is there's
16 no foundation which will become apparent when -- I asked him
17 all of these same questions in deposition to establish what he
18 didn't do and what he doesn't know.

19 THE COURT: And how much time do you anticipate on
20 cross-examination?

21 MR. RICHARD: 30 to 40 minutes.

22 THE COURT: All right. Let me hear from -- thank
23 you.

24 Let me hear from you, Mr. Blum, please.

25 MR. BLUM: Good morning, Your Honor.

1 Your Honor, first, we disagree with the plaintiff's
2 interpretation of your ruling on their MIL No. 1. That had
3 nothing to do with Mr. Steffey. It had to do mostly with
4 Dr. Shoup. And as to those issues, we've respected that ruling
5 and haven't transgressed.

6 But you were very clear in that ruling that proof of
7 other sources or sources other than Whittaker -- and I think
8 you used the term, quote, "fair game," end quote. And
9 Dr. Steffey lays the foundation for that argument on the
10 turnouts.

11 I would make the offer of proof that both Mr. --
12 that Mr. Alvord at least will testify that it is the spot in
13 the turnouts that is the critical testing location to determine
14 whether or not there's compliance with permits and what the DDW
15 will do. And they have argued that what is at the turnouts is
16 the sole cause by Whittaker.

17 What Dr. Steffey will testify is that, when you look
18 at the data, if you assume that the calculations that the
19 plaintiff did are correct, that it is impossible from a
20 mathematical point for the -- for Whittaker to be the source
21 because either --

22 THE COURT: To be the source or the only source?

23 MR. BLUM: The only source.

24 And that in some instances, the numbers are so
25 high -- for instance, there's some times when it's been seven

1 to ten times what we find at the effluent. And that -- so that
2 has relevancy not only to the issue of -- excuse me -- of it's
3 not Whittaker, it's somebody else, but it also goes to the
4 issue of the restoration damages since it's the turnouts
5 themselves that are the critical testing point. What -- even
6 if -- even if all of the -- excuse me -- all of the VOCs was
7 eliminated from Saugus 1 and Saugus 2, they were treated to
8 zero, you would still have problems at the turnouts.

9 And since it's the turnouts that count, the
10 restoration or the treatment, as they argue, wouldn't work.
11 There's no need to do it because it's not going to solve the
12 problem that the plaintiffs have, which is VOCs at the
13 turnouts.

14 THE COURT: Why not?

15 MR. BLUM: Because you're still going to get
16 readings of positives at the turnouts.

17 THE COURT: Why?

18 MR. BLUM: Because Whittaker is -- there is clearly
19 evidence that, even if Whittaker is a source, there's other
20 sources there.

21 THE COURT: So what?

22 MR. BLUM: So you're still going to get the numbers
23 and they're still going to have the same problems.

24 THE COURT: Why?

25 MR. BLUM: Because the turnouts will still be

1 positive.

2 THE COURT: I hear you saying all this, but tell me
3 why, given the restoration treatment that's being sought, that
4 what you're telling me is true.

5 MR. BLUM: Because DDW -- because the restoration
6 will resolve -- okay. If I can back up, Your Honor.

7 What the water does is it comes from Saugus 1 and
8 Saugus 2 to the SPTF to be treated for perchlorate. It's then
9 tested for -- in the effluent tank at the SPTF for VOCs, for
10 perchlorate, and other stuff. Then it is mixed with water from
11 the State Water Project. After the mixing, it then flows to
12 the five different turnouts.

13 The DDW and the regulators care about what the
14 number is at the turnouts. They don't care what the number is
15 at Saugus 1 and Saugus 2. So even if that number is zero, if
16 there's still contamination at the turnouts, nothing changes.
17 It's still a problem for them. And --

18 THE COURT: I understand that. But why is it not
19 feasible to do treatment, including soil vapor extraction, in
20 order to eliminate the VOCs?

21 MR. BLUM: Because as to the non-Whittaker parts,
22 nobody knows what the source is. There's a source out there of
23 VOCs, which is proven by the fact that we find additional
24 contamination in the turnouts which cannot be explained by
25 Whittaker.

1 And there is admissions from Mr. Koelewyn who is
2 the -- head of the director of the plaintiffs for Mr. Al- --
3 and Mr. Alvord who is the head of operations and Mr. Leserman
4 who is the senior engineer, that they find contamination at the
5 turnouts which is not from Whittaker. That's not in dispute.

6 THE COURT: And what is the scope of the non- --
7 purportedly non-Whittaker contamination?

8 MR. BLUM: I'm -- Your Honor, I'm sorry. I'm not
9 sure I understand.

10 THE COURT: What is the scope of the contamination?
11 Is it a drop, essentially?

12 MR. BLUM: No, no. It's 10 percent -- it's enough
13 to affect 10 percent of the water that's delivered.

14 THE COURT: And you don't have any evidence as to
15 who this other source is?

16 MR. BLUM: No, Your Honor. But I don't think we
17 need the evidence to show that other sources are relevant
18 because the argument that they're trying to make and the
19 argument that actually -- that Ms. Stanin made, well, you find
20 contaminant in these wells; therefore, it's Whittaker's.

21 THE COURT: From an apportionment standpoint, you
22 can't just point to other sources, can you?

23 MR. BLUM: Well, for Superfund we can. That becomes
24 an orphan share.

25 THE COURT: Not for Superfund, for the jury trial.

1 MR. BLUM: We can't point it for apportionment, but
2 we can for causation.

3 THE COURT: So this goes to causation and
4 restoration damages?

5 MR. BLUM: Yes. And for Superfund, it goes to the
6 actual apportionment under 113.

7 THE COURT: Now, turn to the foundational issues as
8 to whether -- is it Mr. or Dr. Steffey?

9 MR. BLUM: It's Dr. Steffey.

10 THE COURT: -- whether Dr. Steffey has -- has
11 complied with appropriate statistical methodology in arriving
12 at his conclusions.

13 MR. BLUM: Your Honor, he's -- first of all, there's
14 no doubt that he's qualified. He's taught statistics as a
15 professor at university. He's a member -- he's a fellow of all
16 the statistic --

17 THE COURT: Move away from qualifications for
18 purposes of my question, please.

19 MR. BLUM: Dr. Steffey will lay the foundation that
20 it's proper statistical analysis. Part of statistics is not
21 only doing regression analysis and all of the basically, you
22 know, complicated stuff that statisticians do. But part of the
23 statistical analysis is making sense of what the statistics
24 mean and placing them in a way in which can be understood.
25 That's what Dr. Steffey did.

1 And Dr. Steffey's testimony would be a great aid for
2 the jury under -- I think it's 702 because he will be able to
3 take all of this data which is basically -- otherwise would
4 just be presented to the jury in over 300 pages of information.
5 And he will explain what the data means, and he will explain
6 where -- where and why the data supports the conclusion that
7 there's other sources that is affecting the turnout data other
8 than Whittaker.

9 THE COURT: All right. Mr. Richard --
10 Thank you.

11 -- you can take to the lectern, please. We don't
12 have much time. And I mean, the Court has set aside afternoon
13 sessions in order to provide the parties with more time when
14 issues were larger. I think, as a practical matter, I'm going
15 to have to grant your alternative request, and I'll hear the
16 evidence and potentially strike it if the Court concludes that
17 there is a problem with -- with the methodology and the like.

18 But, otherwise, it's now almost 8:30. The Court is
19 going to have to delay the proceedings for however long in
20 order to conduct this voir dire outside the presence of the
21 jury.

22 MR. RICHARD: Yes, Your Honor. And I wasn't
23 suggesting it be outside the presence of the jury. I've done
24 it in front of the jury.

25 But I think as a practical matter, the only point I

1 would make is -- and Your Honor picked up on this -- we've
2 never argued that Whittaker is the only source, the substantial
3 factor instruction. It's actually irrelevant if there are
4 other sources for the issues before the jury, unless there are
5 superseding intervening causes preventing liability for
6 Whittaker. And that's just not an issue in this case.

7 So we'll return to that when we discuss jury
8 instructions and the verdict form, but this whole notion of the
9 sole cause and -- for these claims, that's just not a relevant
10 consideration. But we look forward to talking to Dr. Steffey
11 on these issues.

12 THE COURT: And before you step down, let me -- or
13 leave the lectern, let me address the issues that you have with
14 the documents.

15 You had suggested that there is a fundamental
16 question about whether the Court is going to issue a ruling on
17 403. Why don't you briefly explain that to the Court in the
18 few minutes that we have.

19 MR. RICHARD: Yes. The 403 objection is basically
20 anything having to do with the turnouts and this notion of
21 downstream/upstream is total speculation and irrelevant for
22 reasons that will become apparent by about 9:30 this morning.

23 The other 403 objections, I don't believe that they
24 pertain to Dr. Steffey. There are a couple of e-mails for the
25 other witnesses today that -- where they forwarded

1 attorney-client communications. And while that ship has sailed
2 as to the privilege being provided to DDW, there's still a very
3 serious 403 issue. And there's simply no need to go into
4 e-mails where Mr. Gee told the client something and then they
5 sent it as an FYI to the department of -- the Division of
6 Drinking Water.

7 THE COURT: Which exhibit number or numbers are
8 those?

9 MR. RICHARD: I'd have to grab my binder.

10 THE COURT: I did review the challenged exhibits
11 over the weekend, including this morning, the additional
12 information that was provided to the Court. There were some
13 exhibits that are referenced that the Court simply wasn't
14 provided with. I don't believe I had Exhibit 1438 with
15 Mr. Alvord and Exhibit 1441.

16 And the way we're going to proceed when the Court is
17 not given the exhibits to be able to make a ruling is the party
18 who neglects to provide it to the Court will not be able to use
19 it with that witness. It doesn't mean at all. It just means
20 you won't be able to use it until the Court's had a chance to
21 review it.

22 MR. RICHARD: Those are the two exhibits,
23 Your Honor.

24 THE COURT: I did not receive those. I'm looking at
25 Mr. Alvord's exhibit right now, exhibit binder, and I do not

1 see 1438 or 1441. And so the Court is not going to permit that
2 to be used with Mr. Alvord at this point. When the Court is
3 provided with those exhibits and I have time to review them,
4 then I will rule on the issue in due course.

5 MR. RICHARD: Thank you, Your Honor.

6 THE COURT: But until such time -- and this applies
7 to both sides. If I don't have the exhibits, I'm taking the
8 time to look at them, we have a process. It doesn't mean that
9 you will forever be precluded, but you will have to essentially
10 work on the Court's time, as I have time available to review
11 the documents.

12 MR. RICHARD: Thank you, Your Honor.

13 THE COURT: Thank you.

14 All right. And with regard to the SPTF blending
15 locations summary -- and, Mr. Richard, I think this is your
16 objection. The Court is -- or strike that. This is a document
17 you intend to use with Dr. Steffey, as I understand it.

18 MR. RICHARD: We've actually withdrawn it. We had a
19 meet and confer yesterday. I thought the Court had been
20 advised. I apologize.

21 THE COURT: I might have been. But in any event, so
22 that's no longer an issue?

23 MR. RICHARD: Yes, Your Honor.

24 THE COURT: And then with regard to Mr. Leserman,
25 the Court will want to hear a foundation for all of the

1 exhibits that the parties intend to introduce -- one moment,
2 please.

3 The reason for the pause is I didn't receive 1438
4 and 1441 with Mr. Alvord. It appears that I did receive them
5 with respect to Mr. Leserman. And so the Court will want to
6 hear a foundation, but I do not see that there is work product
7 in 14 -- let's see here. Let me just quickly go through
8 Leserman, then.

9 So for 1341, 1348, 1349, 1370, 1371, 1372, 1373,
10 1383, 1384, 1419, I will want to see an appropriate foundation.
11 And if there's an authentication issue, I will want to see that
12 properly established for 1371. But otherwise, I'm not inclined
13 to agree with the plaintiff that these documents are
14 inadmissible. I think they largely go to weight.

15 Is there any particular one, before we bring the
16 jury in, or ones, Mr. Richard, that you wish to address? I'm
17 not making a final ruling. As I've said from the beginning of
18 this trial, you have to make the objections contemporaneously
19 so I can see that there's a proper foundation. But at least,
20 based upon the information that was presented -- and the
21 plaintiff's information is very basic, it's just 403,
22 misleading, and things of that nature -- I'm not seeing it at
23 this point.

24 MR. RICHARD: Yes, Your Honor. On -- and first of
25 all, for the Court's records, defendant withdrew 1419 last

1 night during our meet and confer and 1420. And there may be a
2 couple of others.

3 But just briefly, on 1341, the bottom half of the
4 first page, there's a reference to counsel. "Fred indicated in
5 discussions prior to the meeting with Whittaker that once a
6 plausible pathway is identified, this is proven, the burden of
7 proof shifts," et cetera.

8 And so the concern is that, you know, that will
9 require, then, that we call Fred Fudacz to explain -- I mean,
10 it's tenuous relevance and --

11 THE COURT: Let me hear if there's an objection to
12 redacting that.

13 MR. BLUM: No.

14 THE COURT: All right. That will be ordered
15 redacted.

16 MR. RICHARD: Okay. I think that deals with that
17 one, Your Honor. Just a moment.

18 I think the issue with 1348 was just speculations
19 and musings about what DDW had said it would or wouldn't do.
20 But there is one other one that does raise the attorney-client
21 issue.

22 I don't see it in this particular binder,
23 Your Honor. So if I find that, I'll just make an objection
24 real-time. But I appreciate Your Honor's indulgence. Thank
25 you.

1 THE COURT: Very well.

2 And just to come back for clarification, on
3 Mr. Alvord. So the one exhibit that I did have, even though I
4 don't believe it was with Mr. Alvord's exhibit binder, was
5 1384. So that's fine to attempt to introduce that with
6 Mr. Alvord.

7 I did not receive 1438 or 1441. And I did look in
8 other exhibits for exhibit binders for today and did not see
9 that. So those you'll have to wait until the Court has had an
10 opportunity to review them.

11 All right. The jury is ready, so we are going to
12 bring them in.

13 Let's bring the jury in, please.

14 THE COURTROOM DEPUTY: Yes, Your Honor.

15 THE COURT: Thank you.

16 (In the presence of the jury:)

17 THE COURT: We remain on the record in Santa Clarita
18 Valley Water Agency versus Whittaker Corporation, now joined by
19 our jury.

20 Good morning, ladies and gentlemen.

21 THE JURY: Good morning.

22 THE COURT: And I hope you all had a very pleasant
23 holiday weekend. And you all should have received the e-mail
24 over the weekend. I did send it to you as soon as the Court
25 received it. That is with respect to Juror No. 7 and the

1 negative test. So hopefully, to the extent that you were at
2 all on edge, that was able to smooth things out for you.

3 So with that, you will recall we concluded with the
4 plaintiff's case on Wednesday, and now we're into the
5 defendant's case. So with that, we will have Whittaker's first
6 witness.

7 And so, Mr. Blum, if -- or, Mr. Gallagher, if you
8 can call your first witness.

9 MR. BLUM: Your Honor, we would call
10 Dr. Duane Steffey.

11 THE COURTROOM DEPUTY: Good morning, Doctor. Would
12 you please come forward. Sir, would you please walk around to
13 the witness platform.

14 Before you have a seat, would you please raise your
15 right hand to be sworn.

16 Do you solemnly swear that the testimony you shall
17 give in the cause now before this Court shall be the truth, the
18 whole truth, and nothing but the truth, so help you God?

19 THE WITNESS: Yes, I do.

20 THE COURTROOM DEPUTY: Thank you. Please be seated.

21 Sir, for the record, would you please state your
22 name and then spell your last name.

23 THE WITNESS: Certainly. My name is Duane Steffey.
24 The last name is spelled S, t as in Tom, e, f as in Frank, f as
25 in Frank, e-y.

1 THE COURTROOM DEPUTY: Thank you. There's some
2 fresh water.

3 THE COURT: And if you would please remove your mask
4 while you're testifying, and please move your chair closer to
5 the microphone. Speak into the microphone as you see me doing,
6 please.

7 And, Mr. Blum, you may begin your direct
8 examination.

9 MR. BLUM: Thank you, Your Honor.

10 DUANE STEFFEY, Ph.D.,

11 DEFENDANT'S WITNESS, WAS SWORN AND TESTIFIED AS FOLLOWS:

12 **DIRECT EXAMINATION**

13 BY MR. BLUM:

14 Q. Now, Doctor -- Dr. Steffey; correct?

15 A. Yes.

16 Q. What do you have your doctorate in?

17 A. I have my Ph.D. in statistics.

18 Q. And where was that received, Dr. Steffey?

19 A. I earned that degree from Carnegie Mellon University
20 in Pittsburgh, Pennsylvania.

21 Q. Can you give the jury the 25-cent version of your
22 education?

23 A. Well, after growing up in eastern Pennsylvania, I --
24 I went to college at Carnegie Mellon and actually took all
25 three of my degrees there, my bachelor's degree. I worked for

1 a few years at Westinghouse in the area there and then earned a
2 master's and a Ph.D. degree, both in statistics from
3 Carnegie Mellon.

4 Q. And when was that?

5 A. The Ph.D. was in 1988.

6 Q. And since then, have you taught statistics anywhere?

7 A. Yes. Yes. After finishing my Ph.D., I accepted a
8 faculty position at San Diego State.

9 Q. And what was that position, Doctor?

10 A. Well, I started as a -- an assistant professor and
11 was ultimately tenured and promoted to full professor of
12 statistics at San Diego State.

13 Q. And what kind of subjects did you teach?

14 A. Uh, well, primarily statistics courses at all
15 levels, from the introductory undergraduate lower division
16 classes to upper division classes for juniors and seniors and
17 also graduate classes for -- for the graduate students in the
18 program.

19 Q. Can you -- can you explain to the jury what
20 statistic -- when you say you teach statistics, what does that
21 mean? What is the field of statistics?

22 A. Well, statistics is the science that is concerned
23 with how to collect and analyze data to draw conclusions about
24 problems of interest and questions of interest. And so it's --
25 it's math you can use is the way I like to think about it. I

1 was a -- growing up, I was a kid who liked to do math, but I
2 also liked to be able to engage and address real problems. And
3 I found that statistics is really the science about how to
4 collect and analyze data to draw conclusions.

5 Q. Okay. And, sir, are you a member of any
6 professional organizations that you believe are relevant?

7 A. Yes. I'm a member of the American Statistical
8 Association, the Institute of Mathematical Statistics, Society
9 for Risk Analysis, and the International Statistical Institute.

10 Q. And are you a fellow in any of these organizations?

11 A. Yes. I'm a fellow of the American Statistical
12 Association and elected member of the International Statistical
13 Institute.

14 Q. What does it mean to be a fellow?

15 A. A fellow of the American Statistical Association,
16 the ASA, is a -- it's a mark of distinction in the profession.
17 We have an association of nearly 20,000 members, and each year
18 three-tenths of a percent of the members can be named as
19 fellows. So that's about 60 people a year. So it is -- it
20 certainly was something that I appreciated the recognition of
21 my colleagues.

22 Q. And generally, what is the criteria for being named
23 a fellow?

24 A. Well, there's a nomination process, and you're put
25 forward by colleagues. And there is a committee that reviews

1 the applications and makes decisions each year.

2 Q. Okay. Sir, are you a peer reviewer for any
3 publications?

4 A. Yes. I'm frequently asked to review articles for
5 journals to judge their scientific merit and whether they're
6 worthy of publication.

7 Q. Can you explain what a peer reviewer is?

8 A. Well, a peer reviewer is someone with the relevant
9 expertise to judge research that's been conducted and -- and
10 where an article has been prepared to publish that research and
11 make it public. And we're asked to evaluate the merits of that
12 work, is it sound and is it worthy of publication and
13 introduction into the -- into the research literature.

14 Q. And what are the -- what types of publications have
15 you been a peer reviewer for?

16 A. Well, I've -- I've been a peer reviewer for most of
17 the prominent journals in my field in statistics. I've also
18 reviewed proposals for the National Science Foundation and have
19 also been asked to look at articles in journals of
20 applications. So where -- in fields other than statistics
21 where there's a prominent statistical aspect to the work.

22 Q. Okay. Sir, in this case, what was your assignment?

23 A. Here, I was asked to evaluate the -- the water
24 quality monitoring data that's been collected on the system
25 over -- well, nearly ten -- nine years, to evaluate that data

1 and, in particular, to assess whether it was consistent with
2 some of the questions or to what extent the data could address
3 questions of causation that I understood to be relevant for
4 this matter.

5 MR. BLUM: All right. If we could put up
6 Exhibit 1449 for demonstrative purposes only.

7 Q. (BY MR. BLUM:) Sir, what is Exhibit 1449?

8 A. Figure 1449 here is a -- essentially a schematic or
9 a simplified diagram of the system that shows the -- the
10 upstream sources of water for the -- for the water agency
11 system, the Saugus perchlorate treatment plant and Castaic Lake
12 being two upstream sources from which water is drawn. And then
13 the water downstream would arrive at what we call the turnouts.
14 And the -- the treatment plant receives water from the Saugus
15 wells that are also shown in the lower left corner of the
16 diagram.

17 Q. If you see where I'm circling, Doctor, the
18 Castaic Lake water, what is the significance of that in your
19 analysis?

20 A. Well, the significance of that is that the -- I've
21 understood that the water -- water agency draws water from
22 Castaic Lake and blends it with the water from the perchlorate
23 treatment plant. And, you know, my understanding is that those
24 were the -- the sources that they considered to be the sources
25 that they were using and blending in the water that was sent

1 downstream to the turnouts.

2 Q. And is it -- do you have an understanding as to
3 whether or not there's VOCs in the water that comes from
4 Castaic Lake?

5 A. I have not seen any indication that there are VOCs,
6 these volatile organic constituents. I haven't seen any data
7 suggesting that Castaic Lake was the source of those
8 constituents.

9 Q. And have you seen any data that shows whether or not
10 there was VOCs in the water that was mixed with the VOC-free
11 water from the SPTF? Or did that -- let me withdraw the
12 question. It made no sense to me either.

13 Did you see any data showing what VOC concentrations
14 there were in water that was coming from the SPTF?

15 A. Yes.

16 Q. And from a statistical -- from a math or statistical
17 point of view, if water with VOCs from the SPTF is mixed with
18 water without VOCs from Castaic Lake, what effect would that
19 have on the level of VOCs?

20 A. Well, the effect would be one of dilution, and it
21 would reduce the level of VOCs that you would see in the
22 blended water.

23 Q. And if we then look at the water at the turnouts,
24 from a statistical point of view, as long as water from the
25 SPTF is mixed with clean water from the Castaic Lake, can the

1 levels of VOCs at the turnouts ever be greater than the levels
2 of VOCs that's coming from the plant?

3 A. Uh, if this is the closest and where the only two
4 sources of water are the treatment plant and Castaic Lake,
5 then -- then, no, it shouldn't be possible to have higher
6 readings of VOCs at the downstream turnout than you have at the
7 upstream effluent from the perchlorate treatment plant.

8 Q. Okay. Now, if -- I want to go on to a different
9 line of questioning.

10 Did the water agency prepare a calculation to
11 determine -- or a formula to determine when there was a mixture
12 of water from Castaic Lake and the SPTF, what were the
13 percentages of Castaic Lake water versus SPTF water?

14 A. Yes, they did.

15 Q. And what is your understanding of that formula?

16 A. Well, my understanding is that what the agency did
17 was to -- there were a couple of constituents that they
18 considered to be good constituents for the purpose of
19 estimating what the percentage of -- I'll call it Saugus water
20 which is the water from the perchlorate treatment plant, that's
21 the term they use -- they thought there were a couple of
22 constituents that were good markers to -- to estimate the
23 percentage of Saugus water that was downstream at the turnouts.
24 They used chloride, and they used sulfate.

25 And the idea is basically that you can take -- if

1 you believe you have two upstream sources, you can take
2 measurements of chloride at the -- the Saugus perchlorate
3 treatment plant and get a Saugus value. You can take a
4 measurement from the surface plants that draw the water from
5 Castaic Lake and get a chloride value there. And then if
6 you're looking downstream and you have a blend, you would
7 expect that chloride value to be somewhere in between the
8 Saugus value and the -- and the Castaic Lake value.

9 And, you know, the closer it is to the
10 Castaic Lake -- the closer it is to the Saugus value, then that
11 would be a greater percentage of Saugus water that was at the
12 turnout. That was -- that's basically the idea. And they --
13 they produced those estimates based on chloride. They also
14 produced those estimates based on sulfate.

15 Q. And the -- did the water agency ever -- excuse me --
16 to your knowledge, submit data to the Department of Drinking
17 Water based on these formulas?

18 A. Yes. My understanding is they have.

19 Q. And have you seen anything that would suggest that
20 the water agency didn't believe that the formulas were valid?

21 MR. RICHARD: Objection. Lacks foundation,
22 Your Honor.

23 THE COURT: Sustained.

24 Q. (BY MR. BLUM:) For the rest of the questions,
25 Doctor, I want you to assume that the formulas are valid. Do

1 you understand that?

2 A. Yes.

3 Q. All right. Now, um, what type of data did you get
4 in order to do your -- to do an analysis?

5 A. For my analysis, I received data that had been
6 produced by the water agency in this matter, files that had
7 readings of the constituents that were being monitored from
8 both upstream and downstream locations in the system, as well
9 as the records of what they refer to as blending studies, which
10 were these measurements that were taken to estimate the
11 percentage of Saugus water that was at the downstream turnouts.

12 Q. And what did you do with that data?

13 A. I integrated that data and -- and created --
14 developed some metrics to -- to understand, um, both the
15 percentages of water at the turnouts and also really to address
16 the question of whether -- to what extent the data are coherent
17 and consistent. And what I mean by that is that, if there are
18 downstream detections of volatile organic constituents, when
19 those detections occur, do the data suggest that those
20 downstream detections of VOCs can consistently be attributed
21 solely to the existence of VOCs at the upstream source at the
22 Saugus perchlorate treatment plant.

23 Q. Okay. And when you say "integrate," for
24 non-statisticians, what does that mean?

25 A. Well, in this case, I just simply mean putting the

1 data together so that you have a time history that you can
2 understand. We were getting data from separate files. But the
3 data were consistent in that typically the -- we have a very
4 rich history of -- about nine years of data for the VOCs, the
5 monitoring of the VOCs. And then the blending studies occurred
6 a couple of years after we started getting data for the -- the
7 VOCs.

8 And so from about seven years of data, these samples
9 are being taken on -- on pretty much a weekly basis. And so we
10 have weekly data where we're understanding: Are there
11 detections of VOCs upstream? Are there detections of VOCs
12 downstream? And then at the same time we're getting these
13 weekly estimates of -- at the downstream location, what is the
14 estimated percentage of Saugus water at that downstream
15 location.

16 Q. Okay. And then once you got all this data and you
17 integrated it, what did you then do?

18 A. Uh, what -- what I did was to essentially visualize
19 that data and look at the time history, look at the instances
20 where there are detections, and look at the relationship
21 between the measured values downstream and the measured values
22 upstream and is it -- are they consistent with the notion that
23 anything that's occurring downstream at the turnouts must be
24 attributable to the Saugus upstream location?

25 Q. Before I move on, I forgot a question.

1 You didn't do this work for free, did you?

2 A. No.

3 Q. Do you have an estimate of how much you've been paid
4 to do the work?

5 A. Yes. Our firm has invoiced our client, your firm, a
6 little over \$50,000 for -- for a little over maybe a year and a
7 half's worth of work.

8 Q. And in terms of volume, can you describe for the
9 jury how much data you had to integrate and then analyze?

10 A. Well, we had -- as I said, we have weekly --
11 approximately weekly measurements of VOC data over almost a
12 nine-year period. So we have -- the total records are
13 approaching about 500 records of measurements being taken at
14 upstream and downstream locations.

15 And with regard to the percentage of Saugus water,
16 that's not quite as much, but it's over -- over 300
17 observations that we -- we essentially pulled together from --
18 from multiple files.

19 Q. And when you said you visualize it, did you prepare
20 anything that -- anything that is actually you can look at in
21 terms of what your visualization was?

22 A. Yes.

23 Q. And were those different figures in your report?

24 A. Yes, they were.

25 MR. BLUM: If we could bring up Exhibit 1450 for

1 identification purposes only. Sorry -- yeah. For
2 demonstrative purposes only.

3 Q. (BY MR. BLUM:) Could you explain to the jury what
4 Exhibit 1450 is?

5 A. Exhibit 1450 is a -- a time history of measurements
6 taken, and it's -- and what it's comparing are the -- this
7 particular figure, Figure 2 from my report, the particular
8 constituent that's being measured here is -- I'm a
9 statistician, not a chemist, but I think PCE is shorthand for
10 tetrachloroethylene, I think. But anyway, so that's the
11 constituent being monitored, the PCE.

12 What we're looking at is on a particular day when
13 sampling was made of the upstream location, which is the
14 effluent, the output from the perchlorate treatment facility,
15 what was that value and what was the value observed downstream
16 at one of the five particular turnouts.

17 So this figure is actually five separate charts.
18 There's one chart for each of the five downstream locations
19 where measurements were taken. And those turnouts are labeled
20 F SC-1, SC-2, V-5, and V-7. And what -- one thing to -- to
21 notice here is that most of the time these VOCs are not being
22 detected downstream.

23 And so what we're looking at is the -- the ratio of
24 the downstream value to the upstream value. And so if the
25 downstream value is not detected, we're calling that a zero.

1 And so you'll see that what looks like a green line running
2 horizontally across these charts are actually a series of
3 individual zero measurements. So those are individual weeks in
4 which the PCE constituent was not detected at the downstream
5 turnout.

6 So what -- what -- what I was particularly
7 interested in were the occasions where there was a detection of
8 the VOC downstream at the turnout. And so those would be the
9 values here depicted as the green dots. When you have a green
10 dot above zero, that would indicate that you had a detection of
11 the VOC at that downstream location, and what's being plotted
12 is what was the magnitude of that detection relative to the
13 magnitude of the value of that constituent that was measured on
14 that same day at the upstream location.

15 MR. BLUM: Okay. Can you put Exhibit 1449 back up?

16 Q. (BY MR. BLUM:) So, Doctor, if I have it correct,
17 you were basically comparing concentrations at the Saugus plant
18 before the dilution to the concentrations at the turnouts after
19 the dilution?

20 A. Correct.

21 MR. BLUM: And if we can go back to the other one.

22 Q. (BY MR. BLUM:) Now, you see that --

23 MR. BLUM: If we can blow up, Rick, for -- the
24 second one, SC-1.

25 Q. (BY MR. BLUM:) Okay. There's a red dotted line.

1 What does that mean?

2 A. Yes. That -- that red dashed line running
3 horizontally is -- that is occurring at the value of 1 on the
4 vertical axis. And so if you have a value at that red dashed
5 line, that would correspond to an instance where the value
6 measured at the downstream location exactly matches the
7 measured value at the upstream location.

8 Q. So --

9 A. So the ratio is 1.

10 Q. If this is the Saugus plant and this is the turnout,
11 the number -- the values of PCE was the same before and after
12 dilution; correct?

13 A. Correct. If -- if -- if we have a value along that
14 red dashed line, that's what that means, that those values were
15 the same, both upstream -- at the upstream and downstream
16 locations.

17 Q. And how about, for instance, these dots right there
18 (indicating), the ones that are above the red line? What does
19 that demonstrate?

20 A. Well, if you have values above the line, those are
21 instances where the magnitude of the constituent was measured
22 downstream -- the value measured downstream is actually greater
23 in magnitude than the value measured upstream.

24 Q. So, in other words, the concentrations of PCE at the
25 turnout was greater than the concentrations before the

1 dilution?

2 A. Yes. And in this case, in the period during 2015
3 that you've circled here, in some cases they were as --
4 approaching five times greater in magnitude downstream than the
5 values that were measured upstream at the same time.

6 Q. From a statistical point of view, what does that
7 tell you regarding whether or not the source at the -- of the
8 PCE at the turnouts is solely that of the Saugus plant?

9 A. These data are inconsistent with that
10 interpretation. It -- it -- if -- it's -- it could --

11 THE COURT: I'm going to ask -- I'm actually going
12 to strike his answer and ask you to establish a foundation that
13 he has expertise with respect to sourcing.

14 Q. (BY MR. BLUM:) Okay. Doctor, I'm only asking you
15 from a statistical point of view, not in terms of physics or
16 engineering but simply by the numbers.

17 THE COURT: And unless you're planning on doing more
18 than just having him testify as to comparing numbers, upstream
19 versus numbers downstream, the Court is going to sustain the
20 objection as lack of foundation as to the significance of what
21 that means.

22 MR. BLUM: Okay. Your Honor, I'll establish it
23 another time, then.

24 Q. (BY MR. BLUM:) All right. Did you also look at the
25 predicted numbers using the formula that plaintiff used versus

1 the actual numbers?

2 A. Yes. I -- I did calculations that addressed the
3 question of what level of VOCs would we expect downstream if we
4 had observed certain values upstream and we -- and we estimated
5 that the water downstream contained some percentage of that
6 upstream water at the Saugus location.

7 MR. BLUM: If we can -- Exhibit 15 -- I'm sorry,
8 1452 for demonstrative purposes.

9 Q. (BY MR. BLUM:) And can you explain to the jury what
10 this exhibit is?

11 A. Yes. This is a comparison -- this is another ratio,
12 but what we're comparing here is the ratio of the actual value
13 measured at the downstream turnout and comparing that to what
14 we would expect based on what we measured upstream on that day
15 and what we estimate the percentage of Saugus water was at that
16 downstream location.

17 Q. And to be clear, Doctor, the estimation of the
18 percentage of downstream water was you used the formula
19 prepared by the plaintiff; correct?

20 A. Yes. These values were all -- these charts were
21 generated using data that had been generated and produced by
22 the water agency.

23 Q. All right. And I'm going to talk about a couple of
24 things on this.

25 The red line that I'm circling -- I'm sorry -- yeah,

1 the red dotted line, what does it mean?

2 A. Well, for this set of charts, this would -- values
3 on the red line would be instances where what we observed
4 downstream exactly matched what we would expect to see based on
5 the upstream value and the percentage of Saugus water.

6 So, for example, if we observed the value of -- for
7 a constituent, if we observed the value of 3 up -- upstream and
8 we believed that the water downstream has -- is one-third
9 Saugus water and two-thirds water from Castaic Lake, then we
10 would expect the downstream value to be one-third of the
11 upstream value. And if the upstream value was 3 and the
12 downstream value was 1, then that would be consistent. And --
13 and the ratio in the chart here would be right on that -- that
14 dashed line at the 1 value.

15 Q. In other words, then it's sort of like one-to-one.
16 It's the predicted value at down -- at the turnouts based on
17 the concentrations at the plant using the formula plaintiff
18 used; correct?

19 A. Correct.

20 Q. All right.

21 THE COURT: And, Mr. Blum -- and this applies to all
22 counsel -- whenever you're having a witness actually do any
23 annotation or markings on a document, since they're going to be
24 cleared, for the record, you need to make sure that you're
25 making clear what the witness is doing.

1 So translated here, he's circled the first chart.
2 There are five charts. This is the one in the upper left-hand
3 corner.

4 So just make some identification so the record is
5 clear, please.

6 MR. BLUM: All right. Thank you, Your Honor.

7 Now, if we can go to the next one. And, Rick, if
8 you could blow up SC-1. Yeah, 1452, the one you have.

9 Q. (BY MR. BLUM:) Okay. Now, this is turnout SC-1 for
10 PCE; correct?

11 A. Correct.

12 Q. Now, what I'm going to circle is some black lines
13 that move laterally from the top to the bottom -- I'm sorry --
14 vertically from the top to the bottom. Can you explain what
15 those lines mean?

16 A. Yes. These are lines that essentially are --
17 correspond to points where we effectively have a division by
18 zero. And -- and what I mean by that is that these vertical
19 bars correspond to dates on which a detection -- where the VOC
20 was detected downstream and -- but the -- the agency's estimate
21 is that on that date, that essentially none of that water at
22 the turnout was coming from the Saugus location.

23 So it's an instance where essentially there -- the
24 estimate is that there's essentially no Saugus water at that
25 turnout but, nonetheless, there is a detection of the VOC on

1 that day at the turnout.

2 Q. Why is that significant from a statistical point of
3 view?

4 A. Well, it's at great odds with what you would expect.
5 There's no reason to expect -- you know, if -- if -- if the
6 Saugus location is the only source of the VOC and -- and the --
7 but there is -- there's virtually no Saugus water at that
8 turnout on that date, then there should be no -- no VOC there.

9 THE COURT: Dr. Steffey, is that a statistical
10 conclusion?

11 THE WITNESS: It is a -- it is a conclusion -- yes,
12 it is a conclusion consistent with the metric. The metric is
13 comparing the observed value -- it's a ratio. It's a ratio of
14 the observed value at the -- at the downstream turnout divided
15 by the expected value.

16 THE COURT: But the conclusions that you're drawing
17 from it, please make sure that you're sticking with statistical
18 conclusions that you're drawing without venturing into
19 hydrogeology and other areas of expertise, please.

20 THE WITNESS: Yes. Well, it is -- it is an instance
21 where, um -- the metric essentially is infinite, and that's why
22 there's a vertical bar there.

23 MR. BLUM: All right. You can take that down.

24 Actually, can you put that full exhibit back up
25 again? The one we just saw, yeah.

1 Q. (BY MR. BLUM:) Now, before we move on to the next
2 one, can you read what -- what it says after "Figure 6"?

3 A. Figure 6 is the label. Caption is "The ratio of
4 actual to expected PCE value, estimated from SPTF value and
5 chloride ratio."

6 Q. What do you mean by "chloride ratio"?

7 A. What I mean by "chloride ratio" is that these are --
8 these charts are using the estimate of the percent of Saugus
9 water at the turnout based on the chloride constituent.

10 Q. Okay. And that's the constituent that was used in
11 the plaintiff's formula?

12 A. It was -- it was one of the two that they used and
13 that they felt were reliable to -- to provide estimates of the
14 percent of Saugus water. I had mentioned earlier in my
15 testimony that they look -- they felt that chloride and sulfate
16 were the two constituents that would serve as the best basis
17 for estimating percent of Saugus water at the turnouts.

18 MR. BLUM: All right. Why don't we take this down,
19 and let's move to Exhibit 1453 for demonstrative purposes.

20 Q. (BY MR. BLUM:) Could you explain to the jury, other
21 than the -- where the lorem, which is -- unfortunately I
22 accidentally put in -- what the exhibit means?

23 A. Well, this figure is -- is a similar set of charts,
24 set of five charts, one for each turnout. The -- the
25 differences here is that, instead of PCE, the constituent that

1 we're looking at is TCE, which is trichloroethylene. And then
2 instead of using the estimate for the percent of Saugus water
3 at the turnout, instead of using the estimate based on
4 chloride, these charts are using the estimate that the water
5 agency made based on sulfate.

6 MR. BLUM: And if we could look at the one in the
7 middle which is for SC-1. Upper middle.

8 Q. (BY MR. BLUM:) Okay. Doctor, other than the lorem
9 ipsum, which is unfortunately a mistake I made, the black and
10 the red lines, do they mean the same thing as they meant in the
11 prior exhibit?

12 A. Yes. If you mean -- I mean, the red dashed line
13 running horizontally and located at 1 on the vertical axis
14 would correspond to an instance -- a dot on that line would
15 correspond to an instance where what was measured downstream
16 corresponds exactly to what we would expect based on the
17 upstream value and the estimate of the percent of Saugus water.

18 And when you say "the black line," I think you're
19 referring to that -- that vertical bar. And that, again, would
20 be an instance where there is a detection in this case of TCE
21 downstream on a day when it's estimated that there's no Saugus
22 water at that location.

23 Q. Okay. Now, just to be -- to be clear, what the
24 formula allows you to do is predict how diluted the water from
25 the effluent plant would be with clean water; correct?

1 A. Well, I guess I would -- I mean, I think that's
2 essentially right. What we're essentially doing is checking to
3 see whether the -- the expected dilution effect is being
4 observed here. That is, if we have an upstream concentration
5 and we have an estimated dilution factor, that's the percent of
6 Saugus water, is the downstream value consistent with that?
7 You know, if I believe that the water downstream is only
8 one-third Saugus water, am I getting a value that's
9 one-third -- a measured concentration downstream that's
10 one-third of the measured concentration upstream. That's
11 essentially what these charts are looking at.

12 Q. But the data that's represented in these charts,
13 what's the -- in the chart for SC-1, what's the time period
14 that it represents?

15 A. Well, the -- these charts are developed using not
16 only the data on the monitored constituents but also the data
17 from the blending studies that give us the estimated percent of
18 Saugus water. And those blending studies began in the spring
19 of 2013. And so you see the horizontal axis is the time axis.
20 And so the measurements start in -- essentially in the second
21 quarter of 2013, in the spring of 2013, and they run through
22 the end of 2019.

23 Q. Did you have any data to look at in 2020?

24 A. No. At the time I created this report, I -- I
25 didn't.

1 Q. All right. Now, I want to -- I'm going to circle
2 the area that's at approximately 2019. And how many dots do
3 you see above the dotted red line?

4 A. It's -- well, it's a little hard to be precise
5 there, but I would say that I would see at least six or seven
6 dots above the horizontal red line.

7 Q. So what does that tell you about the concentrations
8 of TCE in 2019?

9 A. It would tell me that at this particular turnout,
10 SC-1, the downstream location, in 2019, we are seeing values
11 measured downstream that in some cases are -- well, they're
12 greater than what we would expect, and I think in the most
13 extreme cases about 50 percent greater. This value there looks
14 to be around 1.5. So we're getting a value downstream that is
15 50 percent greater than what we would expect based on the
16 upstream value in the estimated dilution factor.

17 MR. BLUM: Okay. If we can go back to 1449, please.

18 Q. (BY MR. BLUM:) So if we go back to the last part
19 that we just talked about, the values for TCE in 2019, and we
20 look at Exhibit 1449 which is the schematic, using the formula
21 that was used by and developed by the plaintiff, you're able to
22 predict what the concentrations of TCE were after the dilution
23 with clean water; correct?

24 A. We're able to -- to calculate what the predicted
25 value would be at a downstream turnout based on the upstream

1 value and the -- and the -- what I'm calling now the estimated
2 dilution factor, the percent Saugus water.

3 Q. And then you compared it to the actual values for
4 TCE that was found at the turnout; correct?

5 A. Correct.

6 Q. And in at least several cases, you found that it was
7 greater than what the predicted value would be?

8 A. Yes.

9 Q. Okay. Now, you're not a hydrogeologist; correct?

10 A. Correct.

11 Q. You're not a geologist. You're -- what you do is
12 you work with numbers. You're a statistician; correct?

13 A. Correct.

14 Q. From a pure statistical analysis, do you have an
15 opinion as to whether or not the concentrations of TCE at the
16 turnouts can be wholly explained by VOCs emanating from the
17 Saugus perchlorate treatment plant?

18 MR. RICHARD: Objection. Vague and lacks foundation
19 as to -- from a statistical perspective or analysis.

20 THE COURT: Sustained.

21 Q. (BY MR. BLUM:) Well, looking at the dilution
22 factors that are -- you talked about, looking and comparing the
23 different concentrations, can the concentrations of TCE found
24 at the turnouts from a mathematical perspective be explained by
25 the concentrations of TCE that were found at -- emanating from

1 the plant?

2 A. Not consistently. That is, the -- the -- when I
3 look at the data overall, the downstream detections cannot
4 be -- the data are inconsistent with the downstream
5 locations -- the detections of VOCs at downstream locations
6 being consistently and solely attributed to a single source,
7 that being the effluent of the perchlorate treatment plant.

8 Q. And to be clear, you're rendering no opinions about
9 what the other source might or might not be?

10 A. Correct.

11 MR. BLUM: That's all, Your Honor.

12 THE COURT: Mr. Richard?

13 MR. RICHARD: Thank you, Your Honor.

14 **CROSS-EXAMINATION**

15 BY MR. RICHARD:

16 Q. You were -- your role in this case, Dr. Steffey, was
17 to respond or rebut to what you thought other experts in this
18 case -- the opinions they were offering; is that right?

19 A. That was -- that was an element of my assignment.
20 And, yes, initially that was the -- that was my role, and it
21 included the analysis of data that I -- on which I've just been
22 testifying.

23 Q. And you note in your report -- that's called a
24 rebuttal report because you thought you were rebutting what
25 some other expert had said; is that right? You prepared a

1 rebuttal report?

2 A. Yes, I prepared a rebuttal report.

3 Q. And in your report, you note that plaintiff's
4 experts, quote, "Note the detection of TCE in the Saugus 1 and
5 2 water supply wells." Do you recall that?

6 A. Yes.

7 Q. And I'd like to show what was previously admitted as
8 Exhibit 522. And Exhibit 522 is a figure from one of the
9 experts in this case, referring to test data. And it says,
10 "TCE and PCE levels in Saugus 1 well water." Do you see that?

11 A. Yes.

12 Q. And so my first question is: Nothing in the work
13 you've done in this case disputes that there are VOCs,
14 including TCE and PCE, in the Saugus wells; is that fair?

15 A. That's correct.

16 Q. And you did not, for example, compare how frequently
17 VOCs detected in the Saugus 1 well, you didn't compare that to
18 how frequently VOCs were detected after that water was blended
19 with other water, did you?

20 A. No.

21 Q. You can't tell us what percentage of the total
22 samples that you talked about result in PCE that cannot be
23 attributed to Saugus 1 and 2. That's not a calculation you
24 made; correct?

25 A. Well, my analyses and the charts that I was just

1 speaking of were looking at the measurements of the effluent of
2 the perchlorate treatment facility. So the charts you're
3 showing here pertain to the Saugus 1 well and values that would
4 be observed prior to the water entering the treatment facility.

5 Q. Sure. We can take this one down. I didn't mean to
6 confuse you.

7 You didn't make a calculation comparing the
8 percentage of occurrence from total samples regarding PCE --
9 comparing anything, whether it was before blend, after blend,
10 at the turnout, you did not apply statistical tools to develop
11 a percentage calculation; correct?

12 A. Well, I -- I don't recall making a numerical
13 calculation. But -- but all of the values are included in the
14 charts. I mean, all of the sample points are -- are depicted
15 in the charts.

16 Q. Okay. Just so we're clear, you can't tell us what
17 percentage of the total samples -- and you referred to weekly
18 samples. Do you recall that?

19 A. Yes.

20 Q. And you can't tell us what percentage of the total
21 samples result in PCE that cannot be attributed to Saugus 1 and
22 Saugus 2 contamination, can you?

23 A. I can, as I sit here, give you a numerical
24 percentage. But it's clear that the -- in the majority of
25 instances, the VOCs are not being detected downstream. That's

1 why we have those horizontal dot -- that string of horizontal
2 dots at zero on those charts.

3 Q. Okay. Let's just jump to that for a minute.

4 On those charts that you did, if there was a
5 detection of TCE or PCE at the SPTF that you talked about, the
6 upstream detection --

7 A. Yes.

8 Q. -- assume that it was 2 or 3 parts per billion.

9 If there were no detection after blending, then
10 nowhere in your charts do you reflect the positive detection
11 before blending; correct? That counts as a zero in your chart?

12 A. Yes. If -- if the VOC is not detected at the
13 downstream location, that -- that would correspond to a zero on
14 the charts.

15 Q. Okay. And you didn't look at any data related to
16 perchlorate in the groundwater from the Whittaker site;
17 correct?

18 A. That's correct.

19 Q. And you don't have any opinion about whether GAC
20 treatment or some other form of treatment of the contaminated
21 well water would be effective to remove VOCs from the well;
22 correct?

23 A. No, I do not.

24 Q. And if -- even when PCE is detected at one of the
25 five turnouts you talked about for the Saugus system, wouldn't

1 you have to speculate as to the possible explanations for that
2 detection?

3 A. Well, I -- I'd prefer not to speculate, but it's
4 outside the scope of my assignment.

5 Q. It's outside the scope of your expertise as a
6 statistician; correct?

7 A. I -- yes. I think that's a fair statement.

8 Q. Also fair to say that you did not apply any
9 statistical principles or any statistical analysis to any
10 aspect of the contaminated aquifers in this case; correct?

11 A. No, I would disagree with that statement.

12 Q. You think that's something you studied, the aquifers
13 in this case?

14 A. Oh, excuse me. The aquifers? I'm sorry. No, I
15 was -- I was focused on the -- the data from the water quality
16 monitoring data. So I was not looking at any data beyond that.

17 Q. You have some general understanding that other
18 experts in this case have testified at length about what
19 aquifers are and how contamination in aquifers travels? Do you
20 have that general understanding?

21 A. I -- I'm certainly prepared to believe that's the
22 case here.

23 Q. Okay. But that's not something you've -- you've
24 studied in this case; correct?

25 A. Correct.

1 Q. And fair to say that at the time you worked on this
2 case and prepared your rebuttal report, you had never heard of
3 something called the policy memo 97-005?

4 A. Correct.

5 Q. You don't know whether the aquifers have been or are
6 an extremely impaired source of drinking water?

7 A. No.

8 Q. And you're not offering any opinion on damages in
9 this case; correct?

10 A. Correct.

11 Q. And you've never been an employee with the
12 United States Environmental Protection Agency; correct?

13 A. Correct.

14 Q. You've never worked for a water agency? Have you
15 ever been employed by a water agency?

16 A. No.

17 Q. Have you ever designed or operated any aspect of a
18 water distribution system for drinking water?

19 A. No.

20 Q. And with respect to blending, is it fair to say that
21 you're actually not in a position to testify as to what the
22 agency's purpose in blending water from the treatment facility
23 was?

24 A. No. I don't -- I don't believe so. I've seen some
25 of the correspondence from the agency about the blending, but

1 I -- I was mostly concerned with the data they were generating
2 from those studies.

3 Q. And you don't know if blending is done pursuant to a
4 permit, for example, do you?

5 A. No, I don't know.

6 Q. Fair to say that's another issue outside the scope
7 of the work you did in this case?

8 A. Yes, I would say that.

9 Q. You didn't review any of the permits to see what
10 they said about blending or the formula that the agency may
11 have been using to estimate its blending?

12 A. Well, I -- I certainly know the formula they were
13 using to estimate the blending. But beyond that, um, no, I
14 don't -- I don't recall looking at any other documents.

15 Q. You didn't look at any permits that referred to
16 either the purpose or limitations of that -- what you call a
17 formula?

18 A. Correct.

19 Q. And you don't know the role of any state agency in
20 the blending or blending studies done by the water agency;
21 correct?

22 A. Correct.

23 Q. Now, you relied -- and Mr. Blum referred to the
24 plaintiff's formula repeatedly. And that's something that you
25 relied on, in part, for some of the work you did in this case;

1 right?

2 A. Well, I relied on it because that was -- that was
3 what they used to calculate the percent of Saugus water that
4 was included in the data files that I was integrating and --
5 and -- in my analysis.

6 Q. Right.

7 And do you have some knowledge that the water agency
8 recognizes that those blending studies are of limited utility?

9 A. I don't recall seeing any statements to that effect
10 by the agency.

11 Q. Fair to say that you yourself concluded that the
12 blending studies were an unreliable method based on your review
13 of those blending studies?

14 A. Well, I -- I think there are reasons to -- there are
15 certainly curious aspects to those estimates, and I did comment
16 on those in my report.

17 Q. Well, you didn't just comment on them. Wasn't that
18 your second opinion, unreliable estimates of water ratios from
19 constituent analysis? I'm reading from page 1 of your report,
20 quote, "SCVWA's method of estimating the ratio of SPTF water to
21 imported water based on measured quantities of chloride,
22 sulfate, or other constituents is not sufficiently reliable to
23 assist in interpreting the recorded detections of TCE and PCE."

24 That was one of the two opinions you formed in this
25 case and set out in your report last year; correct?

1 A. That is correct. And it's based, among other
2 things, as stated in my report, that the agency would
3 occasionally produce negative estimates based on their formula.
4 And it's -- you know, it raises questions about whether there
5 are implicit assumptions in that formula, namely, that there
6 are just two sources of -- of water coming into the -- to the
7 downstream location. One of the reasons you might have
8 negative estimates is because there are more than two sources.

9 Q. Right.

10 But at the time you prepared your report and gave
11 your deposition, you did not have any opinion as to whether
12 there is any other source of water into the distribution
13 system; correct?

14 A. I -- that is correct. And --

15 Q. What you did, sir, was to identify --

16 MR. BLUM: Objection, Your Honor. The witness --

17 THE COURT: The objection is overruled. He answered
18 the question.

19 MR. RICHARD: Thank you.

20 THE COURT: The answer was "That's correct."

21 Q. (BY MR. RICHARD:) What you did, Dr. Steffey, in
22 this case was identify what you called some anomalies in the
23 data, and you identified -- one potential explanation is the
24 presence of an additional source of water; right?

25 A. I -- I would say, yes, that's certainly one possible

1 explanation for these anomalies.

2 Q. And it wasn't within the scope of your work to
3 evaluate the potential causes of the anomalies in the sampling
4 data you described in your work; correct?

5 A. That's correct.

6 Q. And, in fact, you used the phrase in your deposition
7 that you just used here, that you were prepared to believe
8 there are any number of possible explanations for such
9 anomalies or unexpected readings at a turnout; correct?

10 A. I -- again, I'm -- that's outside my area of
11 expertise in terms of what might be causing these -- these
12 discrepancies.

13 Q. But at the time you prepared your report and gave
14 your deposition, you were prepared to believe that there were
15 any number of explanations for the anomalies in the data that
16 you saw; correct?

17 A. I think that's consistent with what I just said. It
18 wasn't a question that was part of my assignment.

19 Q. And fair to say it would be outside the area of your
20 expertise to tell us whether the -- after the blending, whether
21 the transmission pipeline is a closed distribution system?

22 A. I don't have an opinion on that question.

23 Q. And you don't know whether the system is, in fact,
24 pressurized to some hundreds of pounds per square inch or some
25 other measurement?

1 A. I don't -- I don't know that.

2 THE COURT: Before you move on, there's been
3 reference now at least twice about a closed distribution
4 system. What do you understand -- or what is your
5 understanding of what that means? What is a closed
6 distribution system as you have previously testified?

7 THE WITNESS: Well, in -- in the context of this
8 case, a closed system would be one in which you're drawing
9 water from two sources and then that water proceeds to multiple
10 downstream locations without any -- without the introduction of
11 water from any other source.

12 THE COURT: Thank you.

13 Q. (BY MR. RICHARD:) Let's talk a little bit about
14 sampling.

15 You would agree that a fundamental concept in your
16 line of work, statistics, is the concept of sampling to learn
17 about a population of interest?

18 A. That is, you know, a fundamental concept in -- in my
19 work and often applicable in -- in the work I do.

20 Q. And that typically would entail a sampling plan to
21 address selection of a sample so that it provides useful
22 information about that broader population?

23 A. Uh, certainly there are -- are occasions when I've
24 been asked to develop sampling plans for clients.

25 Q. And normally there are at least three main

1 considerations that you begin with when you're asked to do that
2 beginning with: What is the question you're trying to address,
3 correct?

4 A. Yes.

5 Q. And the other key considerations of a sampling plan
6 are: How reliable do you want that answer to be and how
7 variable is the population you're studying; right?

8 A. Correct.

9 Q. And by "population," we're not just talking about
10 people, but you're referring to any large group of data;
11 correct?

12 A. Yes. A population could be a set of people, a set
13 of other living things or -- or a set of objects of interest.

14 Q. Defective products, for example. You've worked on
15 matters involving a large number of defective -- or allegedly
16 defective products; correct?

17 A. Correct.

18 Q. And for the data obtained from the turnouts
19 themselves, those five turnouts you talked about, is it fair to
20 say you did not evaluate the water agency's purpose in
21 obtaining those samples?

22 A. I did not evaluate the agency's purpose in
23 collecting those samples. I -- I was concerned with the data
24 they had generated from that program.

25 Q. You didn't evaluate the water agency's objectives,

1 though, the way you would if you were conducting a sampling
2 plan or developing a sampling plan yourself; right?

3 A. Yes. Correct. Here -- obviously my assignment here
4 was very different than assignments I've had to develop
5 sampling plans.

6 Q. Was it within the scope of your work, sir, to -- for
7 the anomalies you identified to evaluate how or whether the
8 water agency investigated those anomalies?

9 A. Well, I -- I did receive documents, included data
10 and some correspondence from the agency. And if -- had they
11 done -- I didn't see anything in the documents that I reviewed
12 that reflected an investigation of those unusual measurements.

13 Q. Let's focus on whatever documents you reviewed at
14 the time of your report and your deposition in this matter. Is
15 it fair to say that you did not identify, wasn't within the
16 scope of your work to understand whether or how the agency
17 investigated those anomalies?

18 A. It -- I did not -- I did not -- in my review of the
19 documents, I didn't see any indication -- or any reports of an
20 agency investigation of anomalies.

21 Q. So was it or was it not part of the scope of the
22 work you did in this case, to investigate or evaluate the water
23 agency's investigation of those same anomalies?

24 A. It -- if there had been documents that the agency
25 had included that would have been a basis for adjusting or

1 omitting some of the reported values, then I certainly would
2 have considered them. I didn't find any such amendments to
3 the -- to the monitoring data in the materials that I reviewed
4 and used.

5 Q. And I'm sorry if my question wasn't clear. You
6 identified anomalies. The water agency identified anomalies.
7 An anomaly is something that someone can't explain without
8 further investigation. Is that fair?

9 A. Well, I -- I would say -- I think that's a fair
10 characterization. I would just say I don't know to what extent
11 the agency identified those anomalies or investigated them
12 because I didn't see -- I mean, I had -- what were produced
13 were the reports of the weekly monitoring data. And -- and
14 whether those values, you know, were -- were consistent and
15 coherent with one another or if they were instances where they
16 were not inconsistent --

17 Q. Sir --

18 A. -- or where they were not consistent, I mean, the --
19 the data provided were in the same format. There was no
20 supplemental documents that followed any unusual sampling
21 events.

22 Q. Isn't the reason you didn't see such documents is it
23 wasn't within the scope of your work in this case to look for
24 such documents? You have no idea what the agency did to
25 investigate any of the anomalies. Isn't that -- it was outside

1 the scope of what you were asked to do. True or false?

2 A. I'm not -- I don't think I'd fully subscribe to
3 that. I was interested in obtaining, you know, all the
4 relevant information that existed about the water quality
5 monitoring that was going on at -- of the system over this
6 period.

7 And certainly, if there were anomalies that prompted
8 investigations and there were -- and those investigations led
9 to qualifications, led to modifications to the data, then I
10 certainly would have expected to see those and they would have
11 been part of my general request for information about the --
12 what was known about the water quality from the monitoring of
13 the system.

14 Q. So you don't know whether the -- well, let's take a
15 look at your deposition, page 34, lines 12 to 17 on this issue
16 of what was or wasn't within the scope of your work.

17 THE COURT: You may proceed.

18 MR. RICHARD: Thank you.

19 *"QUESTION: For the anomalies you identified,*
20 *was it within the scope of your work to try to*
21 *understand what the water agency, how it*
22 *investigated those anomalies?*

23 *"ANSWER: No. Not -- I mean, that wasn't*
24 *something that was part of my scope. And I wasn't*
25 *led to consider that by my review of the expert*

1 *reports,"* period, close quote.

2 Q. (BY MR. RICHARD:) And you, in fact -- you
3 understood that you gave a deposition in this case in
4 October 2020; right, Dr. Steffey?

5 A. Correct.

6 Q. And you actually reviewed and made some spelling
7 corrections to your deposition once you were provided a copy;
8 correct?

9 A. I recall making corrections to the transcript.

10 Q. Right.

11 And you didn't make any corrections to the five
12 lines I just read; correct?

13 A. I don't recall.

14 Q. And so you don't know whether the water agency, in
15 fact, investigated anomalies in, say, 2012; correct?

16 A. If they did, there was no documentation of that in
17 the materials that I reviewed.

18 Q. Okay. Now, with respect to staying on this sample
19 methodology, you didn't actually evaluate the water agency's
20 sampling methodology for how it collected any of the data for
21 any of the turnouts; correct?

22 A. That's correct.

23 Q. You don't know how the samples were collected?

24 A. Not with any precision.

25 Q. You don't know the volume of the samples, for

1 example?

2 A. That's true.

3 Q. And you actually haven't seen the turnouts?

4 A. I have not.

5 Q. You haven't seen any photos of the turnouts, at
6 least at the time you did your work in this case?

7 A. Correct.

8 Q. And for the work you did, at the time you did it,
9 you believe that the samples were collected -- I think we saw
10 the word "contemporaneous" in one of your charts. You believe
11 that the samples were collected at the same time; correct?

12 A. On the same day, certainly.

13 Q. Well, you don't know whether it was one person going
14 from location to location over the course of many, many hours
15 or whether it was five people simultaneously collecting five
16 samples, do you?

17 A. No, I don't.

18 Q. Fair to say you were not looking at the actual
19 sampling procedures at all in this case?

20 A. No. I was looking at the data that was obtained and
21 reported by the agency.

22 Q. And so you're not in this case drawing any
23 conclusions from a small sample, say it was 110 milliliters or
24 a tenth of a liter, you're not drawing any conclusions as to
25 whether or not that sample tells us anything about the

1 concentration of any of the water in the system; correct?

2 A. Well, I -- I'm using it as -- I'm using those data
3 as a -- essentially a snapshot, a weekly snapshot of the
4 system. And so that -- that's the extent of my use of the
5 data.

6 Q. So, for example, if there's a detection of 1.5 parts
7 per billion at a particular turnout in the system, you don't
8 know for how long that concentration was present at that
9 turnout; correct?

10 A. I -- yes. I think that's true.

11 Q. And you're not offering an opinion as to what the
12 concentration of PCE for the tens of thousands of gallons of
13 water that passed by that turnout is based on that sample.
14 That's not an analysis you made in this case; correct?

15 A. The -- correct. If I understand your question, I'm
16 not developing an estimate of the volume of water that would
17 have been containing that concentration of constituent.

18 Q. Well, you're not -- you didn't do any calculation or
19 any estimation or any probability analysis of the concentration
20 for any water in the system other than whatever was tested in
21 the small sample; correct?

22 A. Well, I think that's right. I mean --

23 Q. In fact --

24 A. Yes. I mean, I -- again, the -- the mission here
25 was to see if -- if the -- if the downstream dots could be

1 connected consistently to the upstream dots.

2 Q. All right. In terms of whether -- because you were
3 asked several questions about concentration, almost as though
4 you had an opinion as to what the concentration of
5 contamination was in the distribution system after blending.
6 But that actually wasn't a relevant consideration for the work
7 you did in this case. You were focused on the data and a small
8 sample and did not attempt to draw conclusions over a broader
9 volume of water; correct?

10 MR. BLUM: Compound.

11 THE COURT: Sustained.

12 Q. (BY MR. RICHARD:) Is it fair to say that, among the
13 potential explanations for these upstream/downstream
14 differences that you talked about, you did not evaluate the
15 impact of potential hydraulic pressure issues in your analysis?

16 A. That's correct.

17 Q. You didn't evaluate at all the physical conditions
18 of the system?

19 A. Correct.

20 Q. You don't know whether there are physical blending
21 occurrences that account for differences at each of the five
22 turnouts?

23 A. Correct. The -- certainly the estimates of the
24 percent of Saugus water varies from turnout to turnout on any
25 particular day. But as to why that occurs, I -- that's outside

1 the scope of my work.

2 Q. Right.

3 And it would also be outside the scope of your work
4 to understand fluctuations in the delivery of the water from
5 either the Saugus perchlorate treatment system or the
6 Castaic Lake source? You don't know if those rates are
7 constant or variable; correct?

8 A. That's true. Yes.

9 Q. And you don't know the difference between direct
10 blending and the water distribution and indirect blending?

11 A. Uh, that's not a distinction that I recall
12 encountering in my work.

13 Q. And you don't know if Mr. Alvord or others at the
14 water agency actually discussed with the regulator, DDW, the
15 difference between direct complete blending and indirect
16 blending; is that fair?

17 A. I think that's fair. I mean, the communication I
18 recall was simply that if they were -- I mean, the statement I
19 recall is that if -- if a constituent like TCE, for example,
20 was present at a level of 1.5 at the Saugus facility, as long
21 as the agency kept its blending ratio below one-third, then
22 they expected that the resulting concentration at the -- at the
23 turnouts would be less than .5, which is the detection limit.
24 And so it would be a non-detect.

25 So that's the extent to which I recall

1 correspondence about their -- you know, their reliance on
2 blending but --

3 Q. Does water quality fluctuate over a short period of
4 time in the water distribution system?

5 A. Well, the data that was reported suggests that it
6 does.

7 Q. Well, when I say "short period of time," does the
8 water quality within the system fluctuate over a period of
9 hours?

10 A. I don't know.

11 Q. All right. And so you assume that water samples
12 taken at different points of the water distribution on the same
13 day, quote, "would bear the greatest relationship to one
14 another," close quote.

15 Is that a fair statement?

16 A. Yes. Yes. Certainly recall that what I was working
17 with were weekly data. And so I certainly felt it was more
18 valid to compare downstream and upstream values measured on the
19 same day rather than a week apart in time.

20 Q. But doesn't that assumption that -- that those
21 samples would bear the greatest relationship to one another,
22 wouldn't you have to actually understand the effect of
23 blending, whether there was uniform dispersion of contaminants,
24 behavior of various constituents of the water? Wouldn't you
25 need to know some of those things to know whether your 24-hour

1 period sampling was -- was a valid basis for your assumptions?

2 A. Well, I think if that -- that information could be
3 helpful. But it certainly, from the documents I reviewed,
4 including the agency's correspondence, it seemed to me that
5 they were implicitly making the same judgment.

6 Q. And for the work you did in this case, you talked
7 about visualizing the data, you did not actually make the types
8 of formal inferences in the way a statistician would use the
9 term "formal inferences"; correct?

10 A. Correct. In this assignment, those really
11 weren't -- weren't relevant.

12 Q. So, for example, you're familiar with something
13 called a confidence interval?

14 A. Well, certainly.

15 Q. An error bar?

16 A. Yes.

17 Q. And those are tools that a statistician uses when
18 you're actually doing a formal inferential analysis where you
19 look at a set of data and you're trying to draw conclusions
20 about a broader set of information; correct?

21 A. Well, I -- a confidence interval issue, say, your
22 error bars are typically what a statistician would use to
23 convey the reliability of an estimate when the task is to
24 estimate a population characteristic based on sample data that
25 you have.

1 And so that -- that's sometimes part of my
2 assignment but not always, and it wasn't really part of my
3 assignment in this matter.

4 Q. You would agree that statistical significance for a
5 statistician is linked or depends on sample size?

6 A. Yes. I think that's -- that's certainly true.
7 There is a relationship between sample size and statistical
8 significance.

9 Q. And because you didn't do that kind of analysis in
10 this case and because you're not relying on random sampling to
11 draw conclusions about the data, you're not offering an opinion
12 as to the statistical significance of any differences in
13 testing at the well and testing at the turnouts; correct?

14 A. Correct. I think that you would -- you'd have to --
15 the research question would have to be framed in such a way
16 that the notion of statistical significance would make sense.

17 Q. You were familiar with the concept at the time you
18 gave your deposition -- and probably for many years before
19 that -- that a statistician can be asked to compare two groups
20 of data and determine whether the measured concentration at one
21 location is statistically significantly different from the
22 other; right? That's something you've done. You have two sets
23 of data, and you're looking for statistically significant
24 differences?

25 A. Certainly that's a context that often arises in

1 statistical work.

2 Q. And in that situation where you actually are
3 providing a statistical analysis, you would agree that the
4 larger the sample size, the more likely you are to find that
5 the difference between the two groups is statistically
6 significant; correct?

7 A. That is -- that is true. And that's one of the
8 reasons that you have to also think about physical significance
9 and to make sure that you're not in a position where your
10 sample sizes are so large that you can detect differences that
11 are statistically significant but maybe not -- maybe not
12 physically significant.

13 Q. Well, sir, you would agree that often the real power
14 of statistics, certainly a lot of the work you do, is to
15 develop those sort of formal inferential analyses based on
16 statistical principles from a sampling protocol; correct?

17 A. Well, certainly in many assignments, that is the
18 role I'm asked to play. Not always. There are certainly
19 assignments I have where I don't calculate confidence intervals
20 because it's not part of the scope of my assignment.

21 Q. Right.

22 And in this case, it wasn't part of the scope of
23 your assignment; correct?

24 A. No. No, here the assignment was really to evaluate
25 the data with a view toward causation because it was my

1 understanding that causation was a question, there were
2 concerns about detections downstream. And -- and, really, the
3 overall statistical question was to what extent would the data
4 support a sole attribution of causation.

5 Q. So let's look at -- because you mentioned
6 visualization. So a lot of what you did was take data and then
7 put -- you created some charts that we looked at earlier?

8 A. Correct.

9 Q. And by visualization, you mean you're putting dots
10 on a chart and labeling the chart?

11 A. Well, doing that but also developing the metrics
12 that are -- are -- that are being expressed and --

13 Q. Well, let's take a look at what was previously
14 marked today as Exhibit 1450. This is Figure 2 from your
15 expert report, which is trial Exhibit 1056.

16 Do you have 1450 in front of you?

17 A. Yes, I do.

18 Q. Now, with respect to SC-1, we see a number of values
19 above -- well, let's take 5 or 10. But in looking at the
20 values for SC-1 -- and that's one of the turnouts in this case;
21 is that right?

22 A. That's correct.

23 Q. And on this chart, over a period of -- from 2011 to
24 2020, all of the dots at 10 or more occurred in 2012; is that
25 correct?

1 A. That is correct. This is -- yeah. This is -- this
2 is going -- I think probably of the charts and this set of
3 figures, this is the most extreme. The vertical axis -- I
4 guess the point I would make is the vertical axis here changes
5 from chart to chart. And this one, because of those really
6 extreme points in 2012 where we were seeing downstream values
7 that were more than 20 times greater in magnitude than what was
8 seen upstream, then the rest of the chart is compressed.

9 So -- but you're right, the value is greater than
10 10, are all occurring, it looks -- by my eye, it looks like
11 they're all occurring in 2012.

12 Q. You called it the most extreme example for what you
13 were talking about. That's the most consistent example of
14 readings from the turnouts being higher than what you would
15 have expected; correct?

16 A. Well, I think it's instances where the -- the
17 downstream values are -- are the greatest in terms of being --
18 well, at the most extreme is 20 times greater. But even in
19 2015, you know, almost five times greater. And then there's
20 also -- it's a little hard to see because of the compression of
21 the scale. But right around the beginning of 2019, there are
22 also some values there that are -- that are greater. And it's
23 a little hard to -- a little hard to understand how much
24 greater there. But they could be 50 percent greater.

25 Q. Let's stick with 2012 for a minute.

1 At the time you prepared your report and developed
2 your opinions in this case, what did you think caused those
3 most extreme examples that show up on your chart here,
4 Exhibit 1450? Again, focusing on 2012.

5 A. I don't know.

6 Q. Did the water agency investigate what caused those
7 most extreme, most consistently high data reports from that
8 turnout, SC-1?

9 A. I don't know. If they did, those investigations
10 weren't included in the documents that I reviewed.

11 Q. So you don't -- even today, you don't know that the
12 water agency investigated and found an abandoned pipe and
13 capped it off in 2012?

14 A. No. I don't believe I know that.

15 Q. So, for example, I'll show you what the parties have
16 stipulated to as a photo in this case. I think it's
17 Exhibit 537.

18 (Exhibit 537 received into evidence.)

19 Q. (BY MR. RICHARD:) You haven't seen this photo of
20 some folks working on -- looks like a big flange with a bunch
21 of bolts. You've never seen this photo before today?

22 A. I have not seen this photo before today.

23 Q. So --

24 MR. RICHARD: That's fine. You can take that down.

25 MR. BLUM: That's okay.

1 Your Honor, we have no objection to showing the
2 jury.

3 MR. RICHARD: No, I'm done. I think it was
4 stipulated to.

5 THE COURT: Yes. It has been received.

6 MR. RICHARD: Thank you.

7 Q. (BY MR. RICHARD:) And, sir, we've been talking
8 about the work that you've done in this case that did not
9 involve those statistical tools of developing a sampling plan
10 and confidence interval and that type of statistical analysis.
11 Wasn't there another case where a federal judge
12 found that your work was too general and didn't fit the facts
13 of the case?

14 MR. BLUM: Irrelevant, Your Honor.

15 THE COURT: I'm going to sustain it on 403 grounds.

16 Q. (BY MR. RICHARD:) Did you do work for a company
17 called Electrolux?

18 A. Yes.

19 Q. And that was litigation work?

20 A. Yes, it was.

21 Q. And just to be clear, for the mathematical work you
22 did in this case, you're not offering the opinion that there
23 were no VOCs in the Saugus well at the time the test data were
24 obtained; correct?

25 A. That's correct.

1 MR. RICHARD: I have nothing further, Your Honor.

2 THE COURT: Mr. Blum.

3 MR. BLUM: Thank you, Your Honor.

4 **REDIRECT EXAMINATION**

5 BY MR. BLUM:

6 Q. Dr. Steffey, when you talked about confidence levels
7 and scope of assignment, what did you mean?

8 A. Uh, well, the -- if -- what I mean is, um,
9 confidence levels and confidence intervals are the tools -- one
10 of the most common tools that statisticians use to convey the
11 reliability of -- of what I'll call point estimates so that
12 if -- if we're trying to estimate a characteristic of a
13 population and -- rather than just calculating a single value
14 based on a sample, what we -- what we typically like to do is
15 to say, oh, yeah, here's my estimate and then here's an
16 interval that expresses -- that conveys the reliability. And
17 one of the most common examples is if you do a survey and then
18 you provide a margin of error.

19 And so, you know, you might estimate a percentage
20 that favor a particular candidate and then say, yeah, then the
21 margin of error on this survey was plus or minus 3 percent.
22 And so that's an interval.

23 And typically when you hear reference to a margin of
24 error, it usually refers to what a statistician would call a
25 95 percent confidence interval.

1 Q. And was that relevant to what you were doing here?

2 A. No.

3 Q. Why not?

4 A. Well, because the task here wasn't really
5 estimation. The task was really assessing whether -- to what
6 extent the data were supportive of a particular -- of a sole
7 attribution of causation.

8 Q. Okay. Now, Mr. Richard talked to you a little bit
9 about 2012 and the numbers that were at times 20 times higher.
10 Do you recall that?

11 A. Yes.

12 Q. Now, I want you to assume that an investigation was
13 done by the water agency and they found that the source of the
14 contamination was a lateral that was connected to the system
15 that introduced the PCE. Is that a closed system?

16 A. Uh, well, if -- if your system didn't include the
17 lateral, then it wasn't a closed system.

18 Q. All right. Last couple of questions.

19 The data that you relied upon, was it solely data
20 that was prepared and generated by the water agency?

21 A. That's correct.

22 Q. And was this data that -- that was to some -- to a
23 major extent given to the Department of Drinking Water?

24 A. That's my understanding, yes.

25 Q. And the calculations that -- that we talked about in

1 terms of percentages of water based on chloride and sulfates,
2 were those conclusions sent to the Department of Drinking
3 Water?

4 A. Yes. That's my understanding.

5 Q. And in the data you reviewed that was generated by
6 the plaintiff -- let me back up.

7 In your career, you've reviewed a lot of lab data,
8 have you not?

9 A. Yeah, probably at this stage I have.

10 Q. And is it your experience that when the lab doubts
11 the accuracy of the data, the lab does something to make sure
12 the reader knows it?

13 MR. RICHARD: Beyond the scope, Your Honor. Lacks
14 foundation.

15 THE COURT: Sustained.

16 Q. (BY MR. BLUM:) Did you see anything in the data you
17 reviewed that led you to believe that the agency distrusted the
18 data?

19 A. No.

20 MR. BLUM: That's all, Your Honor.

21 THE COURT: Mr. Richard.

22 **RECROSS-EXAMINATION**

23 BY MR. RICHARD:

24 Q. I think you told us, but you're actually not
25 familiar with the water agency's sampling method for the

1 samples collected in this case; correct?

2 A. No. Not -- not in any detail.

3 Q. And you're also not familiar with how they run tests
4 on the data that they do collect from those samples; correct?

5 A. Uh, no. Not -- only to the extent that would be
6 reflected in the data reports.

7 Q. So I am correct?

8 A. Yes, I believe you're correct.

9 Q. So, for example, if, when there's an anomaly, the
10 chemist runs a second test if he thinks the anomaly is
11 significant, you're not aware of that methodology for running a
12 test on a -- on another sample taken at the same time; correct?

13 MR. BLUM: Objection. Assumes facts not in
14 evidence.

15 THE COURT: Sustained.

16 Q. (BY MR. RICHARD:) Have you heard of something
17 called second sample testing?

18 A. I have -- I'm familiar certainly with the idea of
19 doing discrete retests. And I actually have some personal
20 experience with that in other work I've done.

21 Q. Okay. And you don't know if that occurred in this
22 case; correct?

23 A. I didn't see any indications in the data reports
24 that I received. I didn't see any indications of discrete
25 retests of unusual observations.

1 Q. Okay. And do you know anything as to the limit, the
2 range of accuracy of any of the tests, say, guidance put out by
3 the U.S. EPA addressing the type of methodology for testing
4 VOCs?

5 A. I don't recall seeing reference to that in the
6 materials I reviewed.

7 MR. RICHARD: Okay. I have nothing further. Thank
8 you.

9 MR. BLUM: Nothing further, Your Honor.

10 THE COURT: You're excused, sir. Please watch your
11 step going down.

12 THE WITNESS: Thank you.

13 THE COURT: And, Mr. Blum, your next witness.

14 MR. BLUM: Your Honor, the defense would call
15 Michael Alvord.

16 THE COURT: All right. Please present him.

17 MR. RICHARD: He's outside the courtroom,
18 Your Honor.

19 THE COURT: Let's have him brought in, please.

20 MR. RICHARD: Sure. We're fetching him now. Just
21 wanted to make sure he wasn't in the courtroom.

22 THE COURT: Very well.

23 THE COURTROOM DEPUTY: Good morning, sir. Would you
24 please come forward.

25 Good morning. Would you please walk around to the

1 witness platform.

2 Would you, please -- before you sit down, would you
3 please stop and raise your right hand to be sworn.

4 Do you solemnly swear that the testimony you shall
5 give in the cause now before this Court shall be the truth, the
6 whole truth, and nothing but the truth, so help you God?

7 THE WITNESS: I do.

8 THE COURTROOM DEPUTY: Thank you. Please be seated,
9 sir.

10 Sir, for the record, would you please state your
11 name and then spell your last name.

12 THE WITNESS: Michael Alvord. Last name is A-l, v
13 as in Victor, o-r, d as in David.

14 THE COURTROOM DEPUTY: Thank you, sir.

15 THE COURT: Mr. Alvord, you may remove your mask.
16 If you would please make sure that you speak into the
17 microphone similarly to how you see me doing. Thank you.

18 THE WITNESS: Thank you, Your Honor.

19 THE COURT: Mr. Blum.

20 MR. BLUM: Thank you, Your Honor.

21 Your Honor, just for planning purposes, are we going
22 to take the morning break at the same time?

23 THE COURT: Yes.

24 MR. BLUM: Thank you, Your Honor.

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MICHAEL ALVORD,
DEFENDANT'S WITNESS, WAS SWORN AND TESTIFIED AS FOLLOWS:

DIRECT EXAMINATION

BY MR. BLUM:

Q. Mr. Alvord, where are you employed?

A. Santa Clarita Valley Water Agency.

Q. And how long have you been employed there?

A. Since the agency merged three years. But in total,
um, 11.

Q. Now, when you say "merged," what do you mean by
that?

A. So in 2018, I think it's Senate Bill 634 brought all
the water agencies in Santa Clarita Valley together as one
under SCV Water, Santa Clarita Valley Water Agency.

Q. And when you say "all the agencies," what agencies
are those?

A. Well, the predecessor, Valencia Water Company, where
I was actually at in 1996 through 2010, Newhall County Water
District where I was at until 2018, Santa Clarita Water
Division, and Castaic Lake Water Agency, all four of those
merged into Santa Clarita Valley Water Agency.

Q. Okay. And now, currently you are the director of
operations for the water agency?

A. Director of operations and maintenance.

Q. All right. And that means you oversee what's called

1 the water quality group?

2 A. That is one department underneath the operations and
3 maintenance department.

4 Q. All right. What is the water quality group?

5 A. It is a staff of seven, and then there's our
6 laboratory which has another four.

7 Q. Okay. And who's the director of the laboratory?

8 A. We don't have a director of the laboratory. We have
9 a laboratory manager.

10 Q. Okay. Have you ever heard him referred to as the
11 laboratory director?

12 A. No.

13 Q. Well, who's the manager of the laboratory?

14 A. Jeff Koelewyn.

15 Q. Koelewyn?

16 A. Yeah. I'll try to spell it. K-o-e-l-e-w-y-n, I
17 believe.

18 Q. And does he also have job responsibilities in terms
19 of regulatory issues?

20 A. He submits reports. I don't know if I would
21 classify it as regulatory issues.

22 Q. And Mr. Koelewyn, do you believe he is a, um -- a
23 good director or manager of the laboratory?

24 A. Jeff Koelewyn is a great laboratory manager.

25 Q. He understands the science behind the job he has to

1 do?

2 A. Yes. I believe he does.

3 Q. And he's somebody whose opinion you rely upon;
4 correct?

5 A. I rely on all my staff for their opinion.

6 Q. You rely specifically on Mr. Koelewyn's opinions?

7 A. It depends on what he -- what I'm asking him.

8 Q. Okay. Well, what opinions of his would you not rely
9 upon?

10 MR. GEE: Objection.

11 THE WITNESS: Whether or not wells should be
12 operating or not.

13 THE COURT: Hold -- I'm going to sustain the
14 objection, not on argumentive grounds. But ask him a different
15 question, please.

16 Q. (BY MR. BLUM:) Okay. Now, what are the other
17 groups -- what are the other parts within the water quality
18 group?

19 A. We have samplers and we have permit writers and we
20 have water quality scientists who do the analysis in our
21 laboratory.

22 Q. Do you have any toxicologists?

23 A. No.

24 Q. Do you have any people that have a background in --
25 let me rephrase it.

1 Do you have what you believe would be experts in the
2 health effects of contaminated water?

3 A. That is employed with SCV Water?

4 Q. Yes, sir.

5 A. Not that I'm aware of.

6 Q. All right. Now, you also -- part of your job also
7 deals with operations; correct?

8 A. Correct.

9 Q. And what part of operations do you manage?

10 A. All aspects of bringing water, treating it, and
11 distributing it and bringing it to our customers.

12 Q. All right. So, for instance, sources, would that be
13 part of your job?

14 A. Groundwater supply and treatment.

15 Q. Okay. So the different sources that go into the
16 distribution system would be part of your bailiwick; correct?

17 A. Correct.

18 Q. Alrighty.

19 The pumping and the moving of water through the
20 system, is that part of your responsibility?

21 A. It's under my oversight, yes.

22 Q. Storage of water?

23 A. Yes.

24 Q. Okay. And also safety; correct?

25 A. Correct.

1 Q. All right. And then you also deal with maintenance;
2 correct?

3 A. Correct.

4 Q. Do you -- so the maintenance and the -- well, let me
5 back up.

6 Would the integrity of the distribution system be
7 part of your job responsibilities?

8 A. Can you clarify what you mean by "integrity"?

9 Q. Whether or not pipes are leaking.

10 A. Yes. We repair leaks.

11 Q. And you also -- is it part of it discovering leaks?

12 A. Yeah. We can discover leaks, yes.

13 Q. Well, now, I'm talking about -- I want to talk about
14 the system -- you know, I'll deal with that later.

15 I want to ask -- first of all, I want to move to
16 something relating to water quality. That's part of your job;
17 correct?

18 A. Yes. The water quality department is under my
19 purview.

20 Q. And when it's -- if I say "water quality," what does
21 "water quality" mean to you?

22 A. There's a variety of things. Um, sampling, um,
23 making sure that we have appropriate disinfectant residual,
24 making sure we're complying with whatever regulations are in
25 place, treatment of water. Water quality is a pretty big

1 umbrella, if you will.

2 Q. Now, are you familiar with the term "MCL"?

3 A. Yes.

4 Q. What is an MCL?

5 A. It's a maximum contaminant level.

6 Q. And does it have a regulatory meaning?

7 A. It has several, yes.

8 Q. Are you aware that the MCLs were created by what's
9 called the federal Safe Drinking Water Act?

10 A. Correct. And there's more to it than that. It's --
11 Division of Drinking Water has Title 22 in California.

12 Q. What's Title 22?

13 A. So the Safe Drinking Water Act is a federal act that
14 regulates water, and then the states can either adopt that or
15 draft their own and make the water quality regulations more
16 stringent. They can't make them less. So Title 22 is
17 California's Safe Drinking Water Act.

18 Q. And is there presently an MCL for TCE and PCE?

19 A. Yes.

20 Q. And is that .5 parts per billion?

21 A. No.

22 Q. What is it?

23 A. So it depends. If it's part of an impaired water
24 supply, such as the Saugus formation, the MCL is different and
25 it's calculated based on a maximum contaminant level equivalent

1 than it would be if it was just a solitary source.

2 Q. Well, does the State of California in terms of
3 regulations use an MCL or an MCL equivalent?

4 A. If it's an impaired source, they use a combination.

5 Q. Now, the MCL equivalent, is that in a regulation
6 that's -- that's been published by the State of California?

7 A. In 1975, there was the 97-005 memo that DDW put out.
8 Back then, it was California Department of Public Health.
9 Actually, it was Department of Health Services. Then it became
10 Department of Public Health, and they released a draft
11 guidance. It was either in 2013 --

12 THE COURT: A little slower, please.

13 THE WITNESS: I'm sorry.

14 -- 2013 or 2015, and then they issued the policy
15 guide 97-005 in, um -- I believe it was August of 2020.

16 Q. (BY MR. BLUM:) All right. Now, is that -- that's a
17 policy statement by the DDW. That hasn't been put into a
18 regulation that's been adopted by the State, has it?

19 MR. GEE: Objection. Calls for a legal conclusion.

20 THE COURT: Sustained.

21 Q. (BY MR. BLUM:) Do you know what the California Code
22 of Regulations is?

23 A. Yes. Title 22 is part of the California Code of
24 Regulations.

25 Q. All right. And that has -- is there anywhere that

1 you know of where an MCL equivalent is included in any of the
2 regulations that you have to follow as the director of water
3 quality?

4 A. Well, I'm the director of operation maintenance, but
5 thank you.

6 Um, the 97-005 policy that was passed in 2020, we
7 also have to comply with, but I'm not aware that any such
8 language is written in Title 22.

9 Q. All right. Now, let's deal with -- let's deal just
10 with -- now, is an MCL the same as an MCL equivalent?

11 A. No.

12 Q. Let's deal with the MCLs only. What is the MCL
13 for -- in the state for PCE or TCE?

14 A. For a non-impaired source, it's 5 parts per billion.

15 Q. Okay. Now, does the MCL that's within the
16 California regulations discuss or state that this is the MCL
17 for a non-impaired source?

18 A. Specifically in Title 22?

19 Q. Correct.

20 A. I don't believe the language is in there.

21 Q. Under the federal MCL, is there any mention of MCL
22 equivalence?

23 A. Not that I'm aware of.

24 Q. All right. So just what's in the regulations for
25 MCLs, what is the MCL in the State of California for PCE?

1 A. 5 parts per billion or micrograms per liter.

2 Q. All right. How about for TCE?

3 A. It would be the same.

4 Q. And the federal has -- is the same numbers; correct?

5 A. That is correct.

6 Q. All right. Isn't it correct that in determining
7 whether or not to send water to the customers, you use the MCL;
8 and in terms of the agency, if it's below the MCL, it's okay to
9 send to the customer?

10 A. Not in impaired sources. But in other wells, we
11 would use that.

12 Q. Okay. Do you -- now, you recall being deposed in
13 this case; correct?

14 A. Four times.

15 Q. Okay. And three -- three of the four times you were
16 testifying not individually but as a corporate -- as a
17 representative for the water agency; correct?

18 A. Person most knowledgeable. Right?

19 Q. Yeah.

20 And when you were testifying as -- what you call the
21 person most knowledgeable, your understanding was you were
22 required to basically amass all of the information that the
23 water agency had; correct?

24 A. I did the best I could. And I think as our
25 depositions progressed, I gained more information, just like I

1 have more information now. I just -- I keep gaining
2 information.

3 MR. BLUM: Okay. All right. Let me have a moment,
4 Your Honor.

5 THE COURT: Yes.

6 And counsel will not be able to use a deposition,
7 generally speaking, unless I have it. But please proceed.

8 THE WITNESS: May I?

9 THE COURT: Yes, you may.

10 Q. (BY MR. BLUM:) Sir, I want to talk about another
11 term, "operational" -- "operational goal." What's an
12 operational goal as it relates to the water agency being able
13 to serve water that comes from Saugus -- well, Saugus 1 or
14 Saugus 2?

15 A. So we have something referred to as the SPTF, Saugus
16 Perchlorate Treatment Facility. And that has an amended water
17 supply permit to require treatment for perchlorate. And in it,
18 it says there's an operational goal of non-detect for VOCs,
19 volatile organic compounds.

20 Q. All right. Now, is an operational goal the same as
21 a permit requirement?

22 A. It's a permit condition in that specific permit.

23 Q. Well, is it different than a requirement?

24 A. I guess it's a requirement. I guess you would call
25 it that, condition. We have to comply with the conditions of

1 the permit.

2 Q. Well, for instance, if water is above an operational
3 goal, does that mean you can't serve the water?

4 A. It means we are out of compliance with our permit.

5 Q. That wasn't my question, Mr. Alvord. My question
6 was: If the water is above an operational goal, does that mean
7 the permit says you cannot serve the water?

8 A. Division of Drinking Water has told us they do not
9 approve of us not in compliance with our operational goal.

10 Q. That's not, again, my question. Let me ask it
11 again.

12 If the water is above the operational goal, does
13 that mean you, as the water agency, are prohibited from serving
14 that water?

15 THE COURT: Please clarify your question. What does
16 it mean to be prohibited to serve the water?

17 Q. (BY MR. BLUM:) Does the permit say the water cannot
18 be delivered to the customers?

19 A. It states we must meet the operational goal of
20 non-detect.

21 Q. Well, isn't it clear that at least in 10 percent of
22 the time, the water that is delivered to your customers
23 contains VOCs?

24 A. Coming out of that plant, I would say 10 percent is
25 probably the number.

1 Q. All right. So 10 percent of the time the water
2 doesn't meet the operational goal; correct?

3 A. 10 percent of the time we're serving VOCs.

4 Q. And not meeting what you said is the operational
5 goal; correct?

6 A. Correct.

7 Q. Now, by doing that, is the agency in violation of
8 the permit?

9 A. In conversations that I've had with staff at
10 Division of Drinking Water, they are not happy with us dealing
11 with that and they've talked about the possibility of issuing a
12 compliance order.

13 Q. And have they ever done that?

14 A. Not as of yet.

15 Q. Has the agency made any attempt not to serve water
16 coming out of the Saugus treatment plant and going to its --
17 the distribution of the customers that contains VOCs?

18 A. We do not want to serve our customers VOCs. We do
19 whatever we can to comply with that permit.

20 Q. Has -- can you point to any occasion when the agency
21 has refused to serve water or taken steps not to produce water
22 to -- in the distribution system from S-1 or S-2 because it
23 didn't meet an operational goal?

24 A. We operated and we try to be in compliance with that
25 permit.

1 Q. Well, what -- when you get a reading at a turnout
2 that has -- shows VOCs in it, in your opinion, that doesn't
3 meet an operational goal, does it?

4 A. That's not my opinion. That is what it says in the
5 permit.

6 Q. But that water is still served or sent to be
7 distributed to homeowners; correct?

8 A. We're required to notify DDW and we still serve that
9 water, correct.

10 Q. Well, does the agency do anything to send
11 information to the users of that water, say, hey, wait a
12 minute, this water is dangerous?

13 A. Every year we submit a -- what used to be called
14 water quality report. It is now called a consumer confidence
15 report. And in that, we have to report all of the detections
16 of any contaminant, including VOCs. And then there's health
17 effects language in there that says it's a potential
18 carcinogen. So yes, we do notify our customers.

19 Q. Don't those reports also state that the water meets
20 all state and federal regulations and guidelines -- sorry --
21 regulations and laws?

22 A. It states that it meets MCLs when we meet them and
23 it states when we don't.

24 Q. And is the -- the water coming from the Saugus
25 treatment plant, has -- has it ever been -- well, has it ever

1 been above the MCLs?

2 A. For?

3 Q. VOCs.

4 A. For TCE, the highest was 4.2. So it's just under
5 but close to the MCL. But again, it's an impaired source, so
6 it is treated differently.

7 Q. Okay. Now --

8 MR. BLUM: If we can put up Exhibit 1449, please.

9 Q. (BY MR. BLUM:) I want to talk about the system
10 before we get any further.

11 Now, the water originally from Saugus 1 and
12 Saugus 2, it's tested at the -- there's tests done for the
13 water that is coming from the actual wells; correct?

14 A. This picture is not correct. The Saugus 1 -- that's
15 not Saugus Wells 1 or 2. Maybe it's --

16 Q. It's just demonstrative.

17 A. All right. Correct.

18 Q. What was found on Google.

19 A. Yes. We do sample our water at each source prior to
20 treatment.

21 Q. All right. That water is then pumped to the SPTF --
22 correct? -- or the -- SPTP?

23 A. It's SPTF. But yes, the Saugus Perchlorate
24 Treatment Facility. You can call it a plant.

25 Q. Okay. And it's tested, I think, at least in two to

1 three different locations; correct?

2 A. Yes.

3 Q. But one of the locations is when the water gets to
4 what's called the effluent tank; correct?

5 A. Yes.

6 Q. And that -- and the effluent tank is the spot that
7 is -- where the water is collected right before it's put into
8 the distribution system; correct?

9 A. It's collected for perchlorate, VOCs, and others on
10 a weekly basis.

11 Q. All right. And it's tested; correct?

12 A. Correct.

13 Q. All right. Now, the tests that are done, that's
14 done by Mr. Koelewyn in the laboratory; correct?

15 A. The analysis is run in his lab.

16 Q. Do you trust those numbers?

17 A. Yes. I mean, we have an accredited laboratory. But
18 labs make errors. So for the most part, when they come out, we
19 look at the QA/QC. And if he issues a report, then we accept
20 that.

21 Q. You trust Mr. Koelewyn to know when those numbers
22 can be trusted and when they can't?

23 A. His staff keeps track of all the quality
24 control/quality assurance required for every single sample.

25 Q. Do you trust the accuracy of the numbers and that

1 you will be told when the numbers are not reliable?

2 A. When there's something that is an anomaly or looks
3 out of -- or looks suspect, we do look into it, yes.

4 Q. Okay. And the reason you know about it is because
5 you're told that by the laboratory; correct?

6 A. Yes.

7 Q. When you say it's accredited, what does that mean?

8 A. There's something called ELAP, Environmental
9 Laboratory Accreditation Program. And you have to go through a
10 number of testing and audits to make sure that you're operating
11 the lab in accordance with the methods that you say you're
12 going to -- you're going to use. Because each contaminant has
13 different methods that you have to run.

14 Q. Okay. It's called an ELP program?

15 A. ELAP, E-L-A-P.

16 Q. And is that federal or state?

17 A. State.

18 Q. Are you accredited by the EPA?

19 A. It's California EPA.

20 Q. Okay. Now, just to be sure, California EPA is a
21 state agency; correct?

22 A. Correct.

23 Q. All right. And then EPA is the feds; correct?

24 A. Correct.

25 Q. All right. Now, after it's tested at the effluent

1 tank -- and I've circled where the effluent would be tested,
2 the last spot at the plant; correct?

3 A. Yes.

4 Q. It's then put into a distribution system; correct?

5 A. It's put into a transmission pipeline.

6 Q. Okay. And after it's put in, is it then mixed with
7 water coming from another source?

8 A. So it goes through what's called indirect blending
9 with another source.

10 Q. Okay. And what's that source?

11 A. It's -- it's either one or both of our surface water
12 treatment plants.

13 Q. All right. And what is the source of the water from
14 the surface water treatment plants?

15 A. The State Water Project.

16 Q. Okay.

17 A. Which originates in, I think, Lake Oroville.

18 Q. And it's your understanding that the water that
19 comes from the State Water program has no VOCs in it; correct?

20 A. Correct. We test that water for VOCs, among other
21 things.

22 Q. All right. So clean water is mixed with water from
23 the perchlorate treatment plant that may have VOCs in it;
24 correct?

25 A. Non-VOC water is indirectly blended with water that

1 has VOCs in it, correct.

2 Q. Now, when the two pipes merge and the water from the
3 plant is sent into the same pipes with the water from
4 Castaic Lake, that creates what's called turbulence; correct?

5 A. Well, water enters pipes, sure. If two -- two
6 sources are entering pipe, I guess you would get some
7 turbulence. It depends. It depends on the direction of the
8 flow. There's a lot of hydraulic dynamics that happens when
9 water is put into --

10 Q. Well, doesn't that process cause mixing?

11 A. Indirectly.

12 Q. But whether it's indirect or not, it causes the
13 water from the two sources to mix together; correct?

14 A. There's a big difference between indirect blending
15 and direct blending.

16 Q. That wasn't my question, though.

17 A. I could not tell you how well it is mixing in that
18 pipe.

19 Q. But it does cause mixing; correct?

20 A. It can, it should, but it doesn't always.

21 Q. Well, isn't the intent of it for it to mix?

22 A. That's what the permit has allowed for.

23 Q. Okay. And the intent of having the two different
24 water sources combined is that they mix and blend together;
25 correct?

1 A. And unfortunately, at times it doesn't.

2 Q. All right. But the permit requires you to blend
3 those two water sources; correct?

4 A. The permit allows for blending.

5 Q. Well, doesn't it require blending?

6 A. It requires non-detect for VOCs, but it allows
7 blending as -- as an option. Treatment would be the best
8 option.

9 Q. All right. Well, the water agency for how long has
10 used blending as the option?

11 A. This permit, I think, went into effect in 2011,
12 2010.

13 Q. Okay. And --

14 A. So ten years, roughly.

15 Q. All right. And when the permit went into effect,
16 did the water agency believe that the blending would be enough
17 to cause non-detect at the turnouts?

18 A. We were trying to comply with that permit condition,
19 but we also received a letter from DDW in 2011 that they
20 weren't satisfied with the way the blending was operating
21 because there were detections.

22 Q. Well, and in the ten years since you received that
23 letter, you're still blending; right?

24 A. We're still trying to comply with this permit.

25 Q. And in those ten years, has the water agency ever

1 sent you a letter that said you can't use the water anymore
2 because you're getting detections at the turnouts?

3 A. You meant DDW sent us a letter.

4 Q. Yes. DDW.

5 A. They sent the 2011 letter. I'm not aware of another
6 letter.

7 Q. Has EPA said, hey, you've got a problem here, stop
8 serving the water?

9 A. Federal EPA?

10 Q. Yes.

11 A. That's not under their purview.

12 Q. Well, has any agency in the world sent you a letter
13 that says that the water you are serving shouldn't be served
14 because it creates a health risk?

15 A. That 2011 letter was the only one I'm aware of.

16 Q. Okay.

17 THE COURT: We're going to break at this point.

18 Ladies and gentlemen, it's now 10:30. We'll break
19 until 10:45.

20 Please remember, do not speak to anyone about the
21 case, the people, or the subject matter involved. Continue to
22 keep an open mind.

23 We'll see you at 10:45.

24 THE COURTROOM DEPUTY: All rise for the jury,
25 please.

1 (Out of the presence of the jury:)

2 THE COURT: We're in recess until 10:45. Thank you.

3 (Break taken.)

4 (Out of the presence of the jury:)

5 THE COURT: We are on the record in the trial
6 matter.

7 Mr. Richard.

8 MR. RICHARD: Thank you, Your Honor.

9 THE COURT: And we're outside the presence of the
10 jury. Yes.

11 MR. RICHARD: I found the exhibit. I was looking at
12 the wrong one this morning. This 1438 exhibit that defendant
13 would like to show Mr. Alvord --

14 THE COURT: I believe I indicated that the Court was
15 not allowing that since it wasn't presented to the Court.
16 There were two exhibits. And I did look at the chart and spent
17 the time looking at the chart and the information.

18 MR. BLUM: Your Honor --

19 THE COURT: And I was not, I believe, given 1438 or
20 1441.

21 MR. BLUM: The objections we received were after we
22 submitted the material to the Court, Your Honor.

23 THE COURT: I still don't have the documents. And
24 so what would be helpful is when you -- when you provide the
25 Court with the chart, even if that happens, to give me a PDF of

1 the document. Otherwise, I'm simply not in a position in the
2 abstract to make a ruling.

3 MR. BLUM: I agree, Your Honor. I'm not -- I'm not
4 disputing that.

5 THE COURT: And so the Court is going to stand on
6 what it's indicated.

7 I'm going to take this up -- I'm not going to get
8 involved in the jury's time at this point.

9 MR. BLUM: Sure. That's fine.

10 THE COURT: That's what -- that's what counsel, all
11 counsel have to do. We have a process in place. It imposes
12 upon the Court to make sure that I'm doing my job to give you
13 the best informed judgments that I can. It requires counsel to
14 make sure that I can do that.

15 MR. BLUM: Yes, sir.

16 THE COURT: And that will apply to both sides, not
17 just to you, Mr. Blum.

18 MR. BLUM: Your Honor, I'm not arguing with the
19 Court.

20 THE COURT: No, I know. I appreciate your
21 professionalism in response.

22 (In the presence of the jury:)

23 THE COURT: And please be seated, everyone.

24 We remain on the record now in the presence of the
25 jury. And we have Mr. Alvord who is still on the stand.

1 And you understand, sir, that you remain under oath?

2 THE WITNESS: I do.

3 THE COURT: And you may continue with your
4 examination, Mr. Blum, when you're ready.

5 MR. BLUM: Excuse me.

6 Q. (BY MR. BLUM:) Mr. Alvord, if water from any of the
7 wells that the agency operates meets the MCL for TCE or PCE, it
8 would be okay to send into the distribution system; isn't that
9 correct?

10 A. If it's not an impaired source.

11 MR. BLUM: Okay. Your Honor, I'd refer the Court to
12 Mr. Alvord's deposition on December 5th, 2019, page 5 -- I'm
13 sorry. Page 31, lines 5 through 8, and 31:19 through 32:9.

14 THE COURT: All right. You may proceed.

15 MR. BLUM: Page 31, lines 5 through 8.

16 *"QUESTION: If it met the -- if it met the*
17 *MCLs for TCE or PCE, it would be okay to send into*
18 *the distribution system; is that correct?*

19 *"ANSWER: Yes."*

20 MR. BLUM: Now, moving to line 19 on the same page
21 through line 9 on page 32.

22 THE COURT: You may proceed, Mr. Blum.

23 MR. BLUM: Starting line 19 through the end.

24 *"All right. The -- the water is -- that comes*
25 *from the production wells, okay, is that water tested*

1 *before it goes into the distribution system?*

2 *"ANSWER: Yes.*

3 *"QUESTION: Okay. And what -- and what is*
4 *that -- what tests are run on the water? Same*
5 *Title 22?*

6 *ANSWER: Correct."*

7 *And go to the next page, 1 through 8.*

8 *"And if the water from the production wells*
9 *meets the MCL for any of the Title 22 constituents,*
10 *it's then considered fine to put into the*
11 *distribution system?*

12 *"ANSWER: Yes.*

13 *"QUESTION: And that's true for both water*
14 *from the alluvial formation or the Saugus formation;*
15 *is that correct?"*

16 *And I'll represent the answer was: Yes.*

17 Q. (BY MR. BLUM:) You remember testifying under oath
18 on December 5th, 2019?

19 A. That was my first deposition. I remember it, and I
20 know a lot more now than I did then.

21 Q. All right. But at the time, you took the same oath
22 that you took in this courtroom; correct?

23 A. Absolutely.

24 Q. And at the time, you told the truth as you
25 understood it; correct?

1 A. And in this specific context.

2 Q. You told the truth as you understood it; correct?

3 A. In this specific context, yes.

4 Q. At the time you gave this deposition, you were aware
5 that the aquifer had been deemed an -- what's the term?

6 A. Impaired source.

7 Q. Impaired source?

8 A. Extremely impaired source.

9 Q. That's information you had when you answered that
10 question; right?

11 A. Yes. I knew the Saugus formation was an extremely
12 impaired source.

13 Q. Okay. All right. Now, if we go to -- I want to go
14 to just generally issues with the water that you -- that is
15 served.

16 Isn't it correct that the water -- the water agency
17 has issues in which it's had to close wells because of
18 magnesium in the well?

19 A. There's a specific well, I think it's Castaic 2,
20 that we have a manganese issue.

21 Q. Is that NC-10, actually?

22 A. NC-10 also has a manganese issue, but NC-10 is not
23 in operation and hasn't been for years.

24 Q. It was closed down because of high levels of
25 manganese; correct?

1 A. So when I spoke with the former general manager of
2 Newhall County Water District, we discussed the operation of
3 NC-10. And since it's relatively close to the
4 Whittaker-Bermite property and since there's been detections in
5 NC-13 of perchlorate and the fact that it had high levels of
6 manganese, they decided to shut the well down to prevent
7 further plume migration of the perchlorate but also because it
8 had manganese. So it wasn't necessarily needed.

9 Q. Well, isn't it correct, sir, that your testimony was
10 that it was shut down because of high levels of manganese?

11 A. I think if I remember correctly, when I spoke with
12 Steve Cole who was the general manager there, that was the main
13 reason, but it also had to do with plume migration from the
14 Whittaker property. So I may have only stated manganese in my
15 deposition. But again, as I mentioned earlier this morning,
16 that my knowledge has increased tremendously since my first
17 deposition on December 5th.

18 Q. Okay. And there's also a problem in the wells with
19 something called PFAS or PFOAs; correct?

20 A. PFAS.

21 Q. PFAS?

22 A. But which wells --

23 Q. I'm talking just in general.

24 A. In general, yes.

25 Q. And PFAS, had they caused the agency to shut down

1 any wells?

2 A. We voluntarily shut down wells that have
3 contamination of PFAS in them.

4 Q. Doesn't -- haven't you found in Saugus 1 and
5 Saugus 2 low levels of PFAS?

6 A. I don't recall offhand. But if they're low levels,
7 they're well below the notification level.

8 Q. All right. If we can go, again, to the deposition
9 on 12/5/19, page 100, lines 16 through 23.

10 MR. GEE: Yeah. We're fine with that.

11 THE COURT: You may proceed.

12 MR. BLUM: *"QUESTION. Okay. Have you found*
13 *them in S-1, Saugus 1?" It's referring to PFAS.*

14 *"ANSWER: We found very low levels in one*
15 *of those two wells. I don't remember offhand.*

16 *"QUESTION: And when you say very low*
17 *levels, what --*

18 *"ANSWER: They're above the method*
19 *detection -- method reporting limits of 2 parts*
20 *per trillion, somewhere around less than 3-ish."*

21 Q. (BY MR. BLUM:) Is that your understanding?

22 A. Yes. And that's consistent with what I just
23 testified.

24 Q. When you say 3-ish, what are you saying?

25 A. So the detect -- the method limit for reporting is

1 2 parts per trillion or nanograms per liter. The notification
2 level is 5 parts per trillion or nanograms per liter. So 3-ish
3 would be somewhere around 3.2, 3.1-ish.

4 Q. Now, Mr. Alvord, isn't it correct that one of the
5 recognized treatments for PFAS is granulated -- what's called
6 GAC, granulated activated charcoal?

7 A. Yes.

8 Q. That's the remedy that you're asking to be installed
9 for the VOCs; correct?

10 A. That's a treatment method that can be used to remove
11 VOCs.

12 Q. Is it just a coincidence that the method that you
13 were asking the Court to impose for the treatment of VOCs below
14 the MCLs also solves your PFAS problem?

15 A. So the Saugus 1 and 2 are not impacted by PFAS.

16 Q. Well, they have PFAS in it; correct?

17 A. Below the notification level.

18 Q. Is it a coincidence that the remedy you're asking
19 for deals with your PFAS problem?

20 A. Coincidence? It's technology; right? There's
21 treatment technologies to remove contaminants. It happens to
22 be that granular activated carbon removes both VOCs and it also
23 does remove PFAS chemicals.

24 Q. All right. Now, in terms of the system that you
25 have for -- and sources of water, what's banked water?

1 A. You're getting a little bit out of my knowledge
2 base. This is water resources. But it's -- the general
3 understanding that I have of banked water is where you take
4 excess state import water and you bank it in an aquifer in
5 Central California for withdrawal later when you need it.

6 Q. And it's water that can be withdrawn at the request
7 of the water agency; correct?

8 MR. GEE: Objection. Foundation.

9 THE COURT: Sustained.

10 Q. (BY MR. BLUM:) Well, you're -- you were -- when you
11 testified in your deposition, do you recall whether or not you
12 were aware that there was contracts that the agency had for
13 banked water?

14 A. If I recall my deposition, I said that we have
15 multiple sources of supply. We have local groundwater, the
16 alluvium in the Saugus, we have state imported water, and we
17 also have banked water contracts.

18 Q. Can we see Exhibit 88, please.

19 A. And recycled water.

20 Q. What is Exhibit 88?

21 A. You're asking me this --

22 Q. Yes.

23 A. Oh, yeah. This is the Santa Clarita Valley Water
24 report. It's not a water quality report. It's an annual
25 report that we put out that discusses the sources of supply and

1 just general aspects of our system.

2 Q. Okay. And sources of supply, I think you testified,
3 come within the bailiwick of your job as head of operations;
4 correct?

5 A. Well, if I -- if I gave that impression, sources of
6 supply meaning once it's treated at our surface water treatment
7 plants and pumping it out of the ground, those are the two
8 sources that I deal with that bring it into the distribution
9 system to serve to the customers.

10 I'm not involved with bringing water through the
11 State Water Project through our banking project. That is our
12 water resources department.

13 MR. BLUM: Can you put up page 79, please.

14 Q. (BY MR. BLUM:) Now, if you look at page 79, are you
15 aware as part of your job about the different sources of water
16 that goes into the distribution system that you have to deal
17 with?

18 A. Yes. In general, we have local groundwater, as I
19 mentioned, and then the imported supply, which is made up of
20 State Water Project and our bank sources.

21 Q. All right. Well, doesn't -- if you can -- hold on,
22 please.

23 MR. BLUM: I'm sorry, Your Honor. I had the wrong
24 file open.

25 Q. (BY MR. BLUM:) All right. Now, if we look at this,

1 do you have any reason to believe that the information
2 contained in here isn't true?

3 A. No.

4 Q. In fact, you would assume it's correct because it's
5 something that the agency allows to be distributed to the
6 public; correct?

7 A. Correct.

8 Q. And if you take a look for 2019, when it says
9 80,000 acre-feet, that was the total demand that was projected
10 for 2019; correct?

11 A. That's what it says there.

12 Q. All right. And of that, there was -- local
13 groundwater was able to produce 88,000 acre-feet; correct?

14 A. Local groundwater? No. 40,000.

15 Q. Okay. What does it mean by "acre-feet"?

16 A. So it's one acre of land -- there's 325,859 gallons
17 in one acre of land, one foot deep. So if you have one acre of
18 land, one foot deep, you can put that many gallons and that's
19 considered one acre foot of water.

20 Q. Okay. And that's just the way water is measured?

21 A. Otherwise, you'd have a lot more zeros on this page.

22 Q. All right. And there was -- there was access or was
23 there actually the imported water? Was it fully set into the
24 system?

25 MR. GEE: Objection. Lacks foundation.

1 THE COURT: Sustained.

2 Q. (BY MR. BLUM:) Okay. And there was also several --
3 a lot of imported water that was available; correct?

4 MR. GEE: Same objection.

5 THE COURT: Sustained.

6 Establish a foundation first, please.

7 Q. (BY MR. BLUM:) All right. Are you aware whether or
8 not the allocation from the State Water Project for what --
9 what it is for this year, whether it's your full allocation or
10 a percentage?

11 A. My understanding, this year it's zero.

12 Q. Now, that would be for 2020; correct?

13 A. No. 2021. I don't know what the allocation is for
14 this calendar year.

15 Q. Isn't it true, sir, that what the initial allocation
16 is can change as the years -- as the year progresses?

17 MR. GEE: Objection. Foundation.

18 Q. (BY MR. BLUM:) Do you know?

19 A. Yes. It can -- it can increase or decrease
20 depending on the weather.

21 Q. For instance, if you go to Footnote 4 on this page,
22 it shows that in 2019, it started at 10 percent. And by March,
23 it was up to 75 percent; correct?

24 A. It says 70 percent. But yes, that's what it says on
25 this page.

1 Q. So the 5 percent that we -- that you believe the
2 year is going to start out with doesn't necessarily mean -- or
3 the zero that the year will start out doesn't necessarily mean
4 that's what it ends with at the end of the year; correct?

5 A. I think only God knows that if it's going to snow.

6 Q. All right. Now, when -- I'm going to go to a
7 totally separate subject and back to Exhibit 1449.

8 Is it correct, sir, that in terms of determining
9 whether or not the Saugus -- the water coming from S-1 and S-2
10 that's distributed to the customers eventually meets the DDW
11 requirements, the key determination is what the readings are at
12 the turnouts?

13 A. It's beyond that. It's -- you have to have no
14 detection of perchlorate coming from the Saugus Perchlorate
15 Treatment Facility. And then at our turnout sampling
16 locations, which there are five of them, our permit condition
17 No. 20 says we have to have non-detect for VOCs.

18 Q. All right. But when they determine whether
19 there's -- it's below the MCLs and when it's -- when any
20 determination is made as an operational goal, what the DDW
21 wants to know is what the reading is at the turnout; correct?

22 A. For VOCs.

23 Q. Right. Correct. For VOCs?

24 A. Correct.

25 Q. So if there's VOCs at another sampling point prior

1 to the turnouts, that's not the criteria that DDW uses;
2 correct?

3 A. For this specific permit, we have the sample
4 locations at the Saugus Perchlorate Treatment Facility, which
5 we test for VOCs, perchlorate, a bunch of other things, and
6 then we're also required to sample five turnout locations for
7 VOCs.

8 Q. And the sampling results at those turnouts is what
9 is used to determine compliance; correct?

10 A. Compliance with our operational goal of non-detect,
11 correct.

12 Q. And compliance with certain water below the MCLs;
13 correct?

14 A. It doesn't state anything about the MCL at the
15 sample locations in our permit.

16 Q. Okay. But when you -- so what does the water agency
17 look to as -- to determine whether or not it's in compliance
18 with the MCL requirement? What test or what testing location?

19 A. So, again, since this is an extremely impaired
20 source, there's different criteria. So we have to follow what
21 the permit says. We don't follow necessarily what Title 22
22 says.

23 The permit says we have to have non-detect for
24 perchlorate at the effluent of the treatment plant and we have
25 to have non-detect at the turnouts for VOCs. And so that

1 information, then we provide that to Division of Drinking Water
2 every month.

3 Q. Right.

4 But when you're looking -- I just want to talk about
5 MCLs. Okay? Not MCL equivalent. We're going to talk about
6 MCLs. Okay? Are you with me, sir?

7 A. Yeah.

8 Q. Okay. For determination as to whether or not
9 something -- the water is below an MCL, what is the point that
10 you test to determine whether or not the water is below an MCL?

11 MR. GEE: Objection. Asked and answered.

12 THE COURT: It has been. We've gone around this
13 many times.

14 Q. (BY MR. BLUM:) All right. So -- by the way, is
15 the -- never mind.

16 Let's go back to the extremely impaired source
17 issues. That's pursuant to a guidance document that was
18 created by the Department of Drinking Water called Rule 97-005?

19 A. So 97-005 is their guidance memo that you use to
20 create your permit application documentation when you're
21 applying for an amended permit.

22 Q. Now, what is an MCL equivalent?

23 A. So under the 97-005 guidance document, there's a
24 section, among other sections, source control and a variety of
25 things, has to do with adding up the detection levels of

1 contaminants, a whole host of them, including VOCs, um, and you
2 calculate this ratio compared to the MCL.

3 Q. So it's supposed to take into account not only the
4 VOCs but other things in the water that might create a problem;
5 correct?

6 A. Correct.

7 Q. And then it adds them all up, and it gets an
8 ultimate number; correct?

9 A. Yes.

10 Q. What's the significance of the MCL equivalent being
11 below 1?

12 A. Well, what it says in the guidance document is that
13 DDW likes to see an MCL equivalent less than 1 -- 1 or less or
14 even zero -- and this is a specific section out of it -- for
15 when determining what they will require in the permit that they
16 give you. It's one tool among many in the 97-005.

17 Q. And in April of 2020, did the agency submit an
18 application to -- or actually, it was a revised application to
19 the DDW in order to obtain the permit pursuant to 97-005?

20 A. In April 2020?

21 Q. Yes. I'm sorry. 2020.

22 A. 2020. We did not submit anything to them in April
23 2020. We submitted a letter on May 11th, 2020, that documented
24 four points that they had provided questions and
25 clarifications. One of them was source contamination control.

1 One of them was a revision of the MCL equivalent. One of them
2 was CEQA documentation, which is California Environmental
3 Quality Act. And the other one is an OMMP, Operational
4 Maintenance and Management Plan -- or Monitoring Plan.

5 So we didn't submit the actual document. We
6 submitted a letter stating that.

7 Q. All right. In -- did the water agency through a
8 company called Kennedy Jenks on April 19th, 2020, submit
9 something entitled "California Water Resources Control Board,
10 Division of Drinking Water Guidelines 97-005, Documentation for
11 Valencia Water District, Well V-201, Revised Final Draft"?

12 MR. GEE: Objection. Asked and answered.

13 THE COURT: Overruled.

14 But you can answer the question yes or no. Do you
15 know whether that happened?

16 THE WITNESS: What was the date again?

17 Q. (BY MR. BLUM:) April 19, 2020.

18 A. I don't recall. I know we submitted a complete
19 draft document in October 2019, but I don't recall if we did
20 one in April. We may have.

21 Q. Okay. Now, sir, who's Meredith Durant?

22 A. She was an employee of Kennedy Jenks and the person
23 who started the 97-005 technical documentation for the former
24 Valencia Water Company, I think in 2012.

25 Q. Now, would you -- would you agree that you rely upon

1 her for the interpretation of MCL equivalency?

2 A. She's one of many. So when we create a document for
3 an amended permit, we have a number of staff and consultants
4 that we look to to help prepare the documentation.

5 Q. All right. The deposition on December 5th, 2019,
6 page 105, lines 5 through 8.

7 MR. GEE: No objection.

8 THE COURT: Please proceed.

9 MR. BLUM: *"QUESTION: So Meredith Durant*
10 *is the person you rely upon to interpret and tell*
11 *you that the MCL equivalent of .5 means X or 1.5*
12 *means something else.*

13 *"ANSWER: Yes."*

14 Q. (BY MR. BLUM:) Was that a correct statement?

15 A. I wish you would go to a different deposition. That
16 was my first one. But yes, that's -- we did rely on her, among
17 other people.

18 Q. All right. Is there a reason why in your deposition
19 you didn't mention those other people?

20 A. That was a while ago, and it was my first
21 deposition. So chalk it up to nerves maybe. I don't know.

22 Q. Well, you understood, even though it was your first,
23 you still had to tell the truth; right?

24 A. Absolutely. And we do rely upon her, among others.
25 So technically that statement is correct. It may be not

1 complete.

2 Q. Okay. Do you -- now, do you ever recall approving
3 an April 2020 97-005 permit application?

4 A. So I think you're misstating. The permit
5 application -- the permit process is a little convoluted. I
6 can explain it if you'd like.

7 THE COURT: Mr. Blum?

8 Q. (BY MR. BLUM:) No. The question is: Do you
9 remember approving the creation and the submittal of an April
10 2020 permit request for documentation for the permit for
11 Well V-201?

12 A. So I think you're -- you're referencing the 97-005
13 technical document, not the actual application.

14 Q. All right. Let's try that, the application itself.

15 A. So in April 2020, we never submitted that one to
16 DDW.

17 Q. But do you remember approving it for creation and
18 submittal?

19 A. If I remember correctly -- and I believe I testified
20 to this in my deposition -- that me, among others, had reviewed
21 it, but we never submitted it to DDW.

22 Q. Did you approve it?

23 A. I guess if you want to use the word "approve." I
24 reviewed it and it was -- had the information -- so what we
25 were doing at the time is we were trying to streamline and

1 expedite the permitting process with DDW. It had taken -- at
2 that point, it would have been -- what? -- five years roughly,
3 now we're going on nine.

4 And instead of submitting the entire 97-005
5 document, because what was happening is they would re- -- come
6 up with new questions. And so what we did was we took their
7 specific questions, we identified what questions we were
8 responding to, we sent a letter to them saying these are the
9 four -- that was the May 11th letter I was talking about. And
10 we said we would incorporate that into the 97-005 document when
11 we resubmitted that for actual final.

12 So when you say did I approve the April 20th, I
13 approved those four sections -- that we revised the MCL
14 equivalent, that we beefed up the source protection, that we
15 provided documentation for CEQA, and that we provided an OMMP,
16 Operation Manual -- Operation Maintenance and Monitoring Plan.

17 Q. Referring to your deposition on August 21st, 2020,
18 page 33, lines 1 through 11.

19 THE COURT: You may proceed.

20 MR. BLUM: I'm sorry, Your Honor?

21 THE COURT: You may proceed.

22 (Videotaped deposition was played:)

23 Q. *"What role did you play in the creation and*
24 *submittal of the April 2020 permit request for --*
25 *documentation for the permit for Well V-201?*

1 A. *"I may have written this -- these two*
2 *paragraphs in conjunction with Meredith Durant.*
3 *I don't recall exactly. I know it was a*
4 *collaboration for sure.*

5 Q. *"Would it be correct, Mr. Alvord, that*
6 *whether you wrote it or not, you approved it?*

7 A. *"Yes."*

8 Q. (BY MR. BLUM:) Now, Mr. Alvord, you said that the
9 April 2020 application you just testified to was never
10 submitted?

11 THE COURT: And you were referring to two
12 paragraphs, were you not, in the deposition?

13 MR. BLUM: Yes, sir.

14 THE COURT: So you're asking whether those two
15 paragraphs were submitted?

16 MR. BLUM: No.

17 Q. (BY MR. BLUM:) Whether the application itself,
18 that -- what you just described as the backup data for the
19 application.

20 A. I do not believe we submitted the 97-005 document in
21 April 2020. We -- we sent a letter on May 11th.

22 Q. Okay. Now, if I -- if we can go to -- I don't
23 believe this has been designated. But it's from the 8/21
24 deposition, page 27, lines 3 through 5.

25 MR. GEE: No objections.

1 THE COURT: You may proceed.

2 MR. BLUM: All right. Your Honor, is it okay if I
3 just read it?

4 THE COURT: Yes.

5 MR. BLUM: All right.

6 "QUESTION: And then in April, you then
7 submitted what is Exhibit 255; correct?

8 "ANSWER: Correct."

9 And I'll represent to you that Exhibit 255 is the
10 document that's dated April 19, 2020.

11 Q. (BY MR. BLUM:) So did you submit that document?

12 A. Are you going to show me something or --

13 Q. I'm reading from the deposition.

14 "QUESTION: And then in April you" -- you
15 were the deponent -- "submitted what is Exhibit 255;
16 correct?" And that's the document dated April 19, 2020.

17 And your answer was: Correct.

18 A. I don't know what that document is. But if I said I
19 submitted it, I guess I submitted it. But --

20 Q. Okay. So you wouldn't submit something to the DDW
21 that you didn't believe was accurate; correct?

22 A. We submitted -- excuse me. I'm sorry. We did a
23 number of things with -- you know, we would not submit anything
24 not factual to DDW. But we also submitted a number of things
25 to try to get the permit so we can use the source V-201.

1 Q. All right. Now, do you recall in the latest
2 submittal to the DDW -- and just to be clear, that's the agency
3 that either grants or denies the permit for using your wells
4 for drinking water, so you can sell it for drinking water;
5 correct?

6 A. They don't deny. They either grant a permit or
7 don't issue a permit.

8 Q. Okay. Now, the latest material submitted, it calls
9 for blending; correct?

10 A. So a number of things that we had to deal with with
11 DDW in their questions, blending was one of them.

12 Q. Right.

13 Now, does it also deal with blending for something
14 called TDS?

15 A. So we've had a number of iterations with DDW. One
16 of the questions that they had had to do with secondary
17 contaminants -- TDS, sulfate, chlorides, a number of those
18 things. It goes back into that whole calculation of MCL
19 equivalent.

20 And so we asked them: Is blending satisfactory for
21 the secondary contaminants? Verbally they told us no because
22 it's indirect blending. They wanted direct blending.

23 Q. Wasn't it correct that in the material that was
24 presented in 2020, the water agency proposed to DDW that it
25 blend in order to resolve problems with total dissolved solids?

1 A. Yes, among other things.

2 Q. All right. And what are total dissolved solids?

3 A. So TDS, or total dissolved solids, is a combination
4 of a variety of salts and minerals in the water, naturally
5 occurring primarily -- calcium, magnesium, sulfate, chloride,
6 sodium, things of that nature. So they combine it all
7 together, and you get a value of TDS, total dissolved solids.

8 Q. And you proposed that because you thought that's
9 what the agency wanted?

10 A. Correct.

11 Q. And did you also state in the application or the
12 material you provided that, when you dealt with TDS by
13 blending, that would also have the side effect of resolving
14 your VOC problems?

15 A. That was one among many things that we asked them,
16 and they denied it. They -- they said this does not work for
17 them.

18 Q. When did they deny it?

19 A. Through meetings, through calls with them.

20 Q. Anything in writing?

21 A. I don't believe so. There might be an e-mail from
22 Shu-Fang talking about indirect and direct, but I don't recall.
23 I'm sorry, Shu-Fang Orr is one of the Division of Drinking
24 Water engineers.

25 Q. Let's get back to what you proposed. The proposal

1 you made said we'll blend to resolve the TDS problems and, by
2 the way, that will also have the side effect of resolving the
3 VOC problems; correct?

4 A. She said that because we were --

5 Q. That's what you proposed?

6 A. It is one of the things that we proposed. But she
7 said that it was not acceptable for VOCs because the water --
8 the source water for blend could also have VOCs in it.

9 Q. And what was the source water?

10 A. The turnout water that has VOCs occasionally from
11 Saugus Perchlorate Treatment Facility.

12 Q. So it's correct, then, that one of the reasons
13 you're having trouble getting a permit for V-201 is because
14 there's VOCs at the turnouts; correct?

15 A. No. We have a problem with getting a permit for
16 V-201 because we have VOCs in V-201.

17 Q. But the reason they rejected the blending plan for
18 TDS that would -- that would also impact VOCs was because you
19 proposed using water that had VOCs at the turnouts, Saugus 1
20 and Saugus 2 plant?

21 A. So what Ms. Shu-Fang Orr said was that type of
22 indirect blending is not acceptable.

23 Q. Well, didn't you just testify that one of the
24 problems was that the source you were using for blending had
25 VOCs at the turnouts?

1 A. That's what she had stated.

2 Q. Okay. So if there was no VOCs at the turnouts, that
3 would resolve one of the problems, wouldn't it?

4 A. It's still indirect blending, and she doesn't like
5 that.

6 Q. All right. Now -- now, isn't it correct that you
7 testified at your depositions that you have no idea what
8 ultimately DDW is going to order? Isn't that true?

9 A. I don't know if those are the exact words, but I
10 don't know what DDW is going to tell us to do.

11 Q. Okay. Now, I want to turn to the -- to the
12 turnouts. And if we can put back up -- I think it's 1449.

13 Now, prior to the water getting to the turnouts,
14 it's -- there is indirect mixing, as you describe it, between
15 water from the SPTF and Castaic Lake; correct?

16 A. Well, it's not Castaic Lake. It's our treatment
17 plants, indirect blending.

18 Q. Would you agree with me just as a matter of physics
19 that the concentrations of water at the turnouts can never be
20 greater than that that was found to be emanating from the
21 effluent tank at the SPTF?

22 A. Could you restate that?

23 Q. Would you agree just as a matter of physics that the
24 water found at the turnouts, the VOC concentrations, could
25 never be greater than the VOCs found in the effluent tank at

1 the SPTF?

2 A. Not necessarily because with indirect blending and
3 with sampling at different times -- you've got to realize, we
4 don't take samples all at the exact same time. We take a
5 sample, it takes us 15, 20 minutes, a half hour. We go to
6 another location, take a sample. We go to a third location,
7 fourth, fifth.

8 So by the sheer difference in time of sampling and
9 by the hydraulics, you cannot necessarily predict -- and again,
10 that's one of the reasons why they sent the letter in 2011 --
11 that this indirect blending is not sufficient for them because
12 we have detections at our turnouts.

13 Q. Well, if we forget about timing of when sampling is
14 done -- let's just forget about that, take that issue away.
15 The water that the -- that is combined with that from the SPTF
16 is clean -- correct? -- as to VOCs?

17 A. "Clean," meaning that the --

18 Q. There's no VOCs.

19 A. -- the water has no VOCs in it? That is correct.

20 Q. Then it's mixed with water -- whether it's mixing
21 100 percent or not -- with water that has VOCs in it; correct?

22 A. Correct. That's part of the blending plan.

23 Q. When that water is combined and it gets to the
24 turnouts, can water at the turnout ever contain VOCs greater
25 than that water when it was at the SPTF?

1 A. Well, one, I don't think you can throw out the
2 sampling issue. But if you want me to indulge you on that, the
3 answer is we have seen higher levels at our turnouts from time
4 to time.

5 Q. It's --

6 A. So it's happened.

7 Q. It's happened.

8 A. It's happened.

9 Q. And other than in 2012, has there ever been an
10 investigation of why?

11 A. Other than 2012?

12 Q. Other than 2012.

13 A. Yes.

14 Q. When?

15 A. Well, the investigation is -- what we normally do
16 with a detection is take the confirmation sample. And so if
17 the confirmation sample is non-detect, then, in general, you
18 assume that there was either an anomaly or something happened,
19 as I -- I think I testified in my deposition as well as I just
20 did here between the sampling differences, the indirect
21 blending. There's a variety of reasons.

22 But in terms of investigation, it's the -- it's the
23 repeat sample is the first step, the confirmation sample.

24 Q. Well, other than the confirmation sample, has
25 anybody said I'm going to look at the -- at the distribution

1 system, I'm going to investigate why there are readings at
2 the -- at the turnouts that are greater than they should be or
3 even greater than what's at the SPTF?

4 THE COURT: Other than in 2012.

5 MR. BLUM: Other than in 2012.

6 THE WITNESS: Like I said, we took a repeat sample.
7 And the other -- I can only think of one, but there might have
8 been another -- that if the repeat sample doesn't confirm it,
9 then there's no other investigation done.

10 Q. (BY MR. BLUM:) Okay. And has there ever been an
11 investigation other than the repeat sample?

12 A. Other than 2012 and the repeat sample? No.

13 Q. Now, how long after the -- the first sample was
14 taken is the repeat sample taken?

15 A. In general, it takes -- it just depends. So we take
16 the sample on a Wednesday. You have to have several days for
17 the lab to analyze it. So maybe you get the result Monday.
18 We're then going to re-sample on Wednesday. So that would be
19 the time. So that's what we have done for this particular
20 permit.

21 Q. So it isn't a repeat sample. It's just taking
22 another sample on a date that you were going to take a sample
23 anyway?

24 A. Yeah, but it's the second sample.

25 Q. So, in other words, if on Week 1 it's too high and

1 on Week 2 it's not, you're okay with that, as the operations --
2 head of operations?

3 THE COURT: Rephrase your question as to what "okay"
4 means.

5 Q. (BY MR. BLUM:) If on Week 1 it's higher than it
6 should be and on Week 2 it's not, does that mean the reading on
7 Week 1 was wrong?

8 A. So I look at the data; right?

9 Q. That's my -- does that mean the sample -- the
10 reading on Week 1 was wrong?

11 A. If the results prior to that sample are non-detect,
12 then you have a detection that is an anomaly or you don't think
13 is right and the following subsequent sample and continuing
14 samples are not, yes, to me, there -- something happened with
15 that sample.

16 Q. What do you mean? Lab error?

17 A. It can be any number of things. It could be
18 sampling time differences, that's one. It could be indirect
19 blending, hydraulic issues, two. It could be the sampler did
20 something different when they collected that sample. It could
21 be artifacts in the analytical equipment at the lab. So
22 there's a number of things that create false positives or
23 anomalies.

24 Q. Is there ever a consideration that it's not a false
25 positive?

1 A. Sure. That's a possibility. And that's why we
2 investigated it in 2012 much further.

3 Q. And in 2012, there -- there was readings of PCE
4 20 times the -- what you would have expected; correct?

5 A. I don't remember the exact time -- amount, but I do
6 recall 17 parts per trillion -- I mean, parts per billion.

7 Q. And the MCL was .5; correct?

8 A. 5.

9 Q. 5. So that's three -- three-and-a-half times the
10 MCL?

11 A. I do recall that in 2012, yes.

12 Q. And was there an investigation as to the cause of
13 those high readings?

14 A. Yes.

15 Q. What was the result of the investigation?

16 A. So when we saw the value and we had subsequent
17 samples that were high, we investigated into it. We noticed
18 that the turnout, the specific turnout, one of the sampling
19 locations per the permit, SC-1, was shut down for mechanical
20 work. They were installing motor control cabinets and panels.
21 Then they, um, looked at it. They started it up again. And
22 they had some more detections.

23 And so what ultimately happened is they dug up --
24 they realized -- they looked at some plans. There was an old
25 pipe connection to the pipe next to the sample location called

1 the Honby lateral, Honby named after a street in Santa Clarita,
2 that was improperly abandoned. It was a valve that was left
3 open that was connected to the pipeline next to the sample tab.

4 And so when they discovered that, they dug it out --
5 they hired a contractor, installed what's called a blind
6 flange. They just put a piece of metal, bolted in to close it
7 so there's absolutely no way anything can get it, and
8 re-sampled and the values resolved.

9 Q. Okay. Now, before you -- before there was readings
10 of PCE of 17 parts per billion, is it correct that nobody had
11 any idea that the Honby lateral even existed?

12 A. Oh, no, people knew. They didn't look at the plan.
13 So they had to relocate it, I believe, in the '90s. There's a
14 report that was done. There -- the Honby lateral was a
15 pipeline to bring water from the central area of town, SC-1
16 area, to the east. And there was some construction being done
17 with the shopping center and such, and so they had to relocate
18 that pipe. And it was improperly abandoned at the connection
19 point.

20 Q. Let me, then, rephrase the question.

21 Prior to those readings, nobody at the water agency
22 knew that there was an improper abandonment of that lateral;
23 correct?

24 A. Nobody knew until they dug it up.

25 Q. Right.

1 And the only reason they went to dig it up was
2 because of the readings -- the high readings of PCE, I think it
3 was at SC-1; correct?

4 A. Correct.

5 Q. And by the way, wasn't it true that the agency
6 concluded that the Whittaker contamination had nothing to do
7 with those PCE levels?

8 A. So because it was a shallow pipe, because it was a
9 valve that was left open connected to the distribution system,
10 and because there was a nearby cleaners that was found to have
11 either disposed of or leaked out PCE chemicals, that, yes,
12 there was no -- there was a determination in that report that
13 it wasn't Whittaker responsible for that.

14 Q. And although the source was never actually
15 pinpointed, the most likely source was contamination emanating
16 from something called Flamingo Dry Cleaners; correct?

17 A. Yes, at the surface to ground surface.

18 Q. Which then seeped into the ground, and eventually
19 the PCE entered the Honby lateral; correct?

20 A. Entered the abandoned pipe but entered the main
21 distribution pipe through that open valve.

22 Q. All right. So after the Honby lateral was
23 discovered, was there a recognition by the water agency that
24 says, hey, there may be stuff buried that we don't know about
25 that may contribute VOCs, so let's do an investigation to see

1 what else we don't know?

2 A. So, you assume when you, um, just abandon a pipe or
3 abandon a connection, that it was done correctly.

4 So the system is under pressure. So, in essence,
5 it's pushing out. Nothing can come into your closed system, a
6 pipe that has -- that's bolted together with gaskets and
7 everything. If this valve was properly abandoned with a blind
8 flange, that surface contamination would never get into the
9 pipe, into that sample location.

10 Q. But my question that -- that wasn't my question,
11 Mr. Alvord.

12 My question was: Was there an investigation done
13 that, if we could miss an improperly abandoned lateral once,
14 maybe we've done it more than once and let's go investigate and
15 see whether or not there's other ways in which VOCs could enter
16 the system from the outside?

17 A. That's sort -- I don't know where you would look.
18 Saugus 1 and Saugus 2 have VOCs in it, PCE and TCE. So we know
19 that's a fact. And the only way to get that out of there,
20 other than trying to meet this blending goal that DDW had
21 allowed us, is to have treatment. But if you -- you can't just
22 dig up the entire world and find potentially something that
23 wasn't done correctly.

24 I don't really understand the question.

25 Q. Did you -- was there any discussion within the water

1 agency, What can we do to find out if we have other problems
2 such as the one we had in 2012?

3 A. Well, as I previously testified, if you have a
4 detection that is not expected, you do investigative work. You
5 take confirmation samples. Okay, that didn't work. It's still
6 high. You look at plans. You change -- they change the host
7 spigot -- not the host spigot, the sample tap from a -- I think
8 a brass to a stainless steel. That didn't work. They finally
9 looked at the plans. They dug it up. They said, wow, we
10 didn't properly abandon this or whoever was contracted to
11 abandon it, and that was the solution.

12 So I'm not sure what else beyond that -- when you
13 have a detection, the first thing to do is a confirmation
14 sample. If that confirmation sample confirms it, then you go
15 on.

16 Q. Let's get it straight, Mr. Alvord. You don't do
17 confirmation sampling, you just take the sample at the next
18 scheduled opportunity; correct?

19 THE COURT: This has been asked and answered. Let's
20 move on to another question.

21 Q. (BY MR. BLUM:) All right. Now --

22 MR. BLUM: I'm sorry, Your Honor. I just needed to
23 find something.

24 Q. (BY MR. BLUM:) Now, sir, in looking at the
25 concentrations found at the turnouts, the five of them, would

1 you agree that the concentrations of VOCs found at the turnouts
2 has to be less than the concentrations of VOCs found in the
3 effluent?

4 MR. GEE: Objection. Asked and answered.

5 THE COURT: Sustained.

6 Q. (BY MR. BLUM:) You answered no, they don't; isn't
7 that correct?

8 A. I said they haven't. We have had detections higher.
9 So to say that they can't, they have.

10 Q. And as the head of operations, when you find those
11 numbers at the turnouts greater, don't you assume that they
12 could not be from the Saugus treatment plant?

13 A. I think I've already testified we do -- we have a
14 methodology that we follow. We take confirmation samples. If
15 a confirmation sample doesn't confirm that there was a
16 detection, then there's not much more to do.

17 Q. All right. If we can go to page -- the deposition
18 on 12/12/19, page 33, line 6, through 34, line 7.

19 MR. BLUM: Actually, Your Honor, we'd stop on
20 line 20 on page 33.

21 THE COURT: You start or stop there?

22 MR. BLUM: Go from line 6 through 20.

23 MR. GEE: No objections.

24 THE COURT: You may proceed.

25 (Videotaped deposition was played:)

1 Q. *"In looking at the concentrations found at*
2 *the turnouts that we talked about, those five of*
3 *them, would -- would you agree that the*
4 *concentrations of VOCs found at those turnouts has*
5 *to be less than the concentrations of VOCs found*
6 *in the effluent?*

7 A. *"I would assume so.*

8 Q. *"Yeah, because it's blended with clean*
9 *water; correct?*

10 A. *"Correct."*

11 Q. (BY MR. BLUM:) Was that the truth?

12 A. At the time, my understanding, yes.

13 Q. Okay. And you recall that on that deposition, you
14 were testifying as a representative of the water agency;
15 correct?

16 A. Yes, but my knowledge continues.

17 Q. Well, you're required, as part of your obligation,
18 to talk to all the people that had relevant knowledge and
19 worked at the agency and also reviewed the documents that were
20 relevant; correct?

21 A. Yes. I talked to quite a few people in that
22 one-week time span but not everybody.

23 Q. Well, did you believe that you were able to testify
24 on that date as a representative of the knowledge of the water
25 department, water agency?

1 A. I felt confident that at the time I was the person
2 most knowledgeable.

3 Q. And that you had done proper work in order to gain
4 the information of the agency as a whole?

5 A. Well, I have much more responsibilities than just
6 that one item. But yes, you know, as I testified in the
7 beginning, my knowledge and understanding of this has continued
8 to grow.

9 Q. Okay. All right. Now, Mr. Alvord, have you seen
10 any report about source contamination at the turnouts?

11 A. Source contamination at the turnouts? I mentioned
12 the one for SC-1. That's the only -- that's the only report
13 that I have seen.

14 Q. Alrighty. If we could put up Exhibit 1372.
15 (Exhibit 1372 received into evidence.)

16 THE COURT: Is this a stipulated document?

17 MR. BLUM: Yes, sir.

18 Q. (BY MR. BLUM:) What is Exhibit 1372?

19 A. It is a report, I believe, that we submitted to
20 Division of Drinking Water regarding our results at the five
21 turnouts.

22 Q. Okay. Would you -- do you agree that because it's
23 submitted to the DDW, that the water agency does everything
24 to -- to make sure that it's accurate?

25 A. Yes.

1 Q. Okay. And there's a signature at the bottom. Whose
2 signature is that?

3 A. It looks like Jim R. Leserman.

4 Q. Is his signature required on these documents?

5 A. I don't know if his is. I know a signature.

6 Q. All right. What's the date of the document?

7 A. It says April 15th, 2013.

8 Q. Well, doesn't it say at the top that -- data --
9 September of 2011?

10 A. I'm sorry. I didn't catch that, but I think I know
11 what you said. Yes, it says September 2011 at the top.

12 Q. Do you know why this wasn't signed by Mr. Leserman
13 about two years later?

14 A. I don't.

15 Q. Okay. Do you have any reason to believe that the
16 information on the document is inaccurate?

17 A. No.

18 Q. All right. Now, if you can go to -- you see where
19 it says --

20 THE COURT: Please be mindful of the mic.

21 MR. BLUM: I'm sorry.

22 Q. (BY MR. BLUM:) -- "surface water"?

23 A. Yes. I see that.

24 Q. Okay. That's water from the State Water Project;
25 correct?

1 A. Yes.

2 Q. All right. And that's the blending that we talked
3 about; correct?

4 A. That's the blend water.

5 Q. All right. Now, see where it says "SPTF effluent"?

6 A. Yes.

7 Q. And if you go to the far right, in the effluent,
8 what was the levels of PCE?

9 A. Based on this document, less than .5.

10 Q. Okay. That's below the detection limit; correct?

11 A. The detection limit is .5 micrograms per liter.

12 Q. And just for clarification, what does "detection
13 limit" mean?

14 A. So you can detect lower. But EPA and Division of
15 Drinking Water have methods for each analyte contaminant. And
16 it's statistically accurate down to this level. They can get
17 lower, but this is the level that they set in the regulations.

18 Q. All right. Now, if you -- let's go -- do you see
19 where it's 1A, Week 1A?

20 A. Yes.

21 Q. And there is sample points at five different points;
22 correct?

23 A. Correct.

24 Q. And these are each turnouts; correct?

25 A. Yes.

1 Q. All right. Let's take a look at the readings for
2 PCE on -- if you can pull it up, please -- on Week 1A, which is
3 at 9/1/2011.

4 A. PCE is on 9/6/2011.

5 Q. Oh, I'm sorry. You're right.

6 What is it?

7 A. It says 3.0 parts per billion or micrograms per
8 liter.

9 Q. That's much greater than non-detect; correct?

10 A. I don't know if it's much greater. It's greater.

11 Q. Well, if the effluent had no PCE in it, how could
12 the turnout have 3 parts per billion?

13 A. Well, as I previously testified, the sample time
14 that is collected as well as the indirect blending, um, it
15 could be possible. And then the following week, six days
16 later, it was less than five, .5.

17 Q. Well, if we go back to the end of the month on 9/26,
18 it's back up -- correct? -- to 1.6?

19 A. Three samples later, it went back to 1.6, correct.

20 Q. Okay. So does that mean that the samples that
21 showed readings above the detection limit were error?

22 A. Could have been. It could be that we -- the time we
23 sampled the effluent, it was lower and, right after, it was
24 higher. It could be the indirect blending, the hydraulics of
25 the system, which way the water is flowing. There's a lot to

1 it.

2 Q. Could be that there's a source that's adding VOCs to
3 the distribution system that you're not aware of; right?

4 A. If there were multiple samples like in 2012, we
5 would have investigated. But since it wasn't, there was no
6 need to investigate.

7 Q. Two -- two, in your mind, is multiple. Two within a
8 month is a multiple?

9 THE COURT: Ask another question, please.

10 Q. (BY MR. BLUM:) What percentage does it have to be
11 before you believe it's significant enough to investigate?

12 A. Well, if I remember correctly, the -- I think the
13 highest level -- and I could be wrong, this is purely going off
14 memory -- of PCE is around the 1 microgram per liter level.
15 And so, to me, something at 1.6 is within reason. To me, 3.0,
16 maybe it's a little high, but it could be.

17 Um, but for the fact that the samples before it and
18 the subsequent samples after the 1.6 were less than the DLR,
19 detection limit, it came up as an anomaly. But it could be any
20 number of things that I've already testified.

21 Q. Could one of the possibilities be a source of
22 contamination that you're just not aware of?

23 A. If it would have continued, possibly. Since it was
24 one hit and then one quite a bit lower, half of it.

25 Q. All right. Let's go to Exhibit 1371.

1 (Exhibit 1371 received into evidence.)

2 Q. (BY MR. BLUM:) Now --

3 THE COURT: Again, please make sure that you're
4 identifying, if it's a new document, whether it's stipulated
5 to.

6 MR. BLUM: It's stipulated, Your Honor.

7 THE COURT: Thank you.

8 Q. (BY MR. BLUM:) Now, what's the date of this?

9 A. June 2011.

10 Q. Now, there's some more information here, um. Do you
11 see where it says "theoretical blend"?

12 A. Yes, at the top.

13 Q. How was the theoretical blend determined?

14 A. So after we started up the Saugus Perchlorate
15 Treatment Facility in early 2011, DDW sent us a letter asking
16 us to come up with some blending calculations to help determine
17 whether or not -- what we can anticipate as a tool of the VOC
18 levels at the turnouts.

19 So we used a variety of different constituents
20 because, since there are no VOCs in the surface water, we
21 looked at electrical conductance, we looked at chloride, and we
22 looked at sulfate because they're relatively stable but they do
23 vary, um, in the Saugus 1 and 2 water compared to the state
24 import water from the treatment plants.

25 And so you use that to calculate a blend ratio, and

1 then you can try and predict it as a tool, um, for VOCs.

2 Q. And, in fact, that's what the agency did, using --
3 used the chloride and the sulfates in the water to predict what
4 the blend ratios were?

5 A. Initially it was electrical conductance, chloride,
6 and sulfate. But sulfate seemed to be the closest, but it's --
7 again, it's an imperfect tool. And when you're dealing with
8 indirect blending -- it's a tool.

9 Q. Is it a tool that was used by the agency?

10 A. To help predict at the request of DDW.

11 Q. Okay. And do you see where it says right here --

12 MR. BLUM: Rick, if you can blow that area up,
13 "theoretical blend."

14 Q. (BY MR. BLUM:) The bottom -- you were able to
15 predict what you believed the theoretical plan would be;
16 correct?

17 A. It's what the blending calculations calculated.

18 Q. And based upon that, how much of the water at the
19 turnouts would be from the Saugus treatment plant?

20 A. Well, you sort of know what you're getting from the
21 Saugus treatment plant based on the production that's -- the
22 meter that's reading that, those wells. But you don't know
23 exactly what the effluent is from the -- or the treated water
24 from the surface water. And so what you do is you use these
25 calculations to try and help predict that.

1 Q. Basically, if you know the treated water has X, the
2 plant water has Y, and the water at the turnout is K, you
3 can -- you can then determine basically with an equation what
4 percentage of X and Y was needed to get the readings of K?

5 A. Theoretically.

6 Q. Well, it's simple math, isn't it? It's actually not
7 complicated math.

8 A. Well, the math is not complicated, but the
9 hydraulics are complicated.

10 Q. These are hydraulics that were developed by
11 Mr. Leserman with the help of the agency to -- at the request
12 of the DDW; isn't that true?

13 MR. GEE: Objection. Lacks foundation.

14 THE COURT: Sustained.

15 Q. (BY MR. BLUM:) Do you know who developed these
16 calculations?

17 A. I don't. It's -- but it's blending calculations. I
18 mean, it's pretty -- it's not -- like you said, it's fairly
19 simple, but it's predicting. It's not actual.

20 Q. Well --

21 A. I mean --

22 Q. Aren't you aware that, before these calculations
23 were used, that the agency went through a process to determine
24 whether or not the calculations were accurate?

25 A. Not that I'm aware of. They're -- like I said, if

1 you had a glass of water here and a glass of water here and you
2 mix them, you'd be able to determine what that blend is.
3 That's direct blending.

4 When you're dealing with hydraulics of a system with
5 demands in different directions, with concentrations that vary
6 over time, that you're not sampling all at the same time, it's
7 a -- it's a tool that DDW asked us to come up with to help
8 predict. But it's not always accurate.

9 Q. Do you recall anything ever written to the DDW that
10 says, hey, these aren't -- this is not an accurate estimation
11 of what the theoretical blend will be?

12 A. I'm not aware of any written document that was sent.

13 Q. Do you recall any internal document where you're
14 saying, hey, we can't rely upon these calculations, they're not
15 accurate?

16 THE COURT: Mr. Blum, this is argumentative. Let's
17 move on.

18 Q. (BY MR. BLUM:) All right. Sir, if we can go -- so
19 the anticipation was that the water at the turnouts would be
20 90 percent from the water project and 10 percent from the
21 plant; correct?

22 A. When is that? On this particular one?

23 Q. Yes.

24 A. Yes. That's what that calculation shows.

25 MR. BLUM: Okay. So can we go -- can you bring it

1 back to the full document, Rick? And can we go to -- right
2 there. For TCE.

3 Q. (BY MR. BLUM:) Now, on June 27th, 2011, there's a
4 reading of TCE at .69; correct?

5 A. That's what it says here, yes.

6 Q. Wouldn't it be correct that if the -- using the data
7 here, knowing what the percentage was in the 90/10, and knowing
8 what the TCE reading was at the effluent, that you can predict
9 what that reading should be on 6/27/2011?

10 A. It has to do with the system hydraulics and the
11 demand. You know, why this one came up when the -- the tool
12 said -- it's only as good as it is. But you're not getting
13 direct blending. You're getting indirect blending. And
14 demands are different. Different sources are pulling different
15 ways.

16 Q. If we can go to your deposition, please. We're on
17 12 -- 12/12/19 where you're testifying as a corporate
18 representative, page 38:15 to page 40:18.

19 MR. GEE: No objections.

20 THE COURT: You may proceed.

21 (Videotaped deposition was played:)

22 Q. *"All right. Now, you looked at the*
23 *theoretical blend. Is that the blend that is -- of*
24 *the water once it's blended with the material or the*
25 *water from the effluent, from the treatment plant?*

1 A. *"That's what it looks like in this calculation.*
2 *I would -- again, I would have to calculate it. But*
3 *based on the numbers and the percentages, that's what*
4 *it looks like.*

5 Q. *"Okay. So the total -- if you look at the --*
6 *90 percent of the water comes from Castaic Lake and*
7 *10 percent comes from the treatment plant; correct?*

8 A. *"Yes. Approximately.*

9 Q. *"All right. And then you're combining pretty*
10 *much equal amounts of water between Saugus 1 and*
11 *Saugus 2; correct?*

12 A. *"Correct.*

13 Q. *"And that -- and you're -- which is a total*
14 *production of -- what is it? -- about 90 --*
15 *90 million?*

16 A. *"Close enough.*

17 Q. *"All right. And it's pretty close in terms*
18 *of the amounts; right?*

19 A. *"Yes.*

20 Q. *"So if you look at the TCE, that TCE up to*
21 *3.1 would be blended with 1.2, and you divide --*
22 *you combine it at 2 point -- what is it? -- 4.3 and*
23 *divide it in half. So it's about 2.1 and a half;*
24 *correct?*

25 A. *"Correct.*

1 Q. "So we have 2.1 and a half. 10 percent of
2 the water is 2.15 ppb; correct?

3 A. "Correct.

4 Q. "And that's combined with 90 percent of clean
5 water; correct?

6 A. "Correct.

7 Q. "Which would mean that the concentrations of
8 TCE should be about .2; correct?

9 A. "If you use zero as the less than .5.

10 Q. "Okay. But we have no reason to believe that
11 it's not zero, do we?

12 A. "There's no such thing as zero.

13 Q. "Okay. Well, it could be -- it could be in a
14 non- -- it's a nonmeasurable amount?

15 A. "Correct.

16 Q. "Well, is there a rule of thumb that you use
17 when it's below a detection limit? Do you use zero?
18 Do you -- what do you use?

19 A. "Typically zero is used, yes.

20 Q. "So it's not inappropriate to use zero?

21 A. "No.

22 Q. "Okay. So you would calculate that any
23 concentration of TCE as a result of this blend would
24 be below the detection limit; correct?

25 A. "Correct."

1 Q. (BY MR. BLUM:) Is that a correct statement?

2 A. Based on my knowledge then, yeah. I have no
3 reason not to believe that.

4 Q. Sir, when did you gain all this additional knowledge
5 that you've been talking about?

6 A. So, there's --

7 Q. I want when.

8 A. I always gain knowledge. I am -- I am a student of
9 life.

10 Q. Okay. So -- okay. So when did you gain the
11 knowledge that you talked about repeatedly in this examination,
12 that -- where you said you -- you didn't have that knowledge
13 when the depositions were taken?

14 THE COURT: Could you be specific about this
15 particular deposition testimony?

16 Q. (BY MR. BLUM:) When you testified in your
17 deposition and -- let's see. That date was December of 2019.
18 When did you gain knowledge that the number shouldn't have been
19 zero?

20 A. You were asking me to speculate then, just like
21 you're asking me to speculate now. So I have a better
22 understanding of the system hydraulics, a better understanding
23 of how the SPTF operates, a better understanding of the
24 locations of all the turnouts, a better understanding of how
25 the system hydraulics and dynamics work, a better understanding

1 of indirect blending versus direct blending. So all of this, I
2 think, I have gained and I continue to gain from that day until
3 now and will continue.

4 Q. Well, so this was -- this depo was in December of
5 2019; correct?

6 A. Correct.

7 Q. How long had you been working for the -- either
8 Valencia or the combined agencies?

9 A. So the new agency started in 2018.

10 Q. Right.

11 How about for the Valencia?

12 A. Well, Valencia, before that, I started in '96. But
13 these particular, um, results and this data that you're asking
14 me are more system hydraulics of the former Castaic Lake Water
15 Agency, which I wasn't as knowledgeable as I am now.

16 Q. Prior to you being designated as a deponent in this
17 case, had you even reviewed the theoretical blend calculations?

18 A. I'm sure I have. To what extent, I don't know.

19 Q. Were you aware that there were theoretical blend
20 calculations that, I think, in -- the first exhibit is 1372
21 that showed concentrations above -- concentrations in the
22 turnouts above what was found in the effluent prior to being a
23 deposition -- prior to being a deponent in this case?

24 A. I'm assuming -- I don't recall when I gained
25 knowledge of that, but I am assuming I gained it prior to that

1 first deposition, yes.

2 Q. All right. And was it because you were preparing
3 for the deposition that you gained that knowledge?

4 A. Of course.

5 Q. Okay. What do you mean "of course"?

6 A. Well, when I was -- when I was put in charge of
7 operations and maintenance, I take it very seriously. And when
8 I was designated as the person most knowledgeable for this, I
9 started reviewing. Like I continued -- I was up until pretty
10 late last night still reviewing. This is a lot of information.

11 Q. All right. Now, Mr. Alvord, isn't it true -- and
12 let me just -- I want to make sure I get this right.

13 Now, the source of the VOCs that was found in 4A --
14 I think it was 4 on Exhibit 1371 -- is it plausible that the
15 source could be from a -- from something -- from an additional
16 source other than the SPTF?

17 A. Are you talking about SC-2 or SC-1? I don't
18 recall --

19 Q. If we can put up 1371 again.

20 A. If it was the 3 parts per billion that we just
21 looked at --

22 Q. I'm looking at 4A here (indicating).

23 A. 4A. TCE. Yes.

24 So what is the question now?

25 MR. BLUM: You can blow that up, Rick.

1 Q. (BY MR. BLUM:) The question is: Is it plausible
2 that the reason there is contamination above the detection
3 limit is because there's a source of VOCs, TCE in particular,
4 that you're not aware of?

5 A. So if you look back on the top, it said the TCE was
6 3.1, I think, from Saugus 1 and 1 point or -- I didn't
7 remember, you moved it too quickly -- that would lead me to
8 believe that this came from Saugus 1 and 2.

9 Q. This is the one where we just went through the math.

10 A. Right. But if you can zoom out -- I don't know if
11 that's --

12 Q. Yeah. Go ahead and zoom out.

13 A. It shows Saugus 1, TCE, 3.1; Saugus 2, TCE, 1.2.
14 The effluent was 2.1. So I have no reason to believe that that
15 .69 at this time, looking at this data, would come from
16 anywhere else but the Saugus 1 and 2.

17 Q. And you don't believe it's even plausible that it's
18 from another source?

19 A. Anything is plausible. But based on this data,
20 based what I'm looking at right now, I have no reason to
21 believe it came from anywhere else other than Saugus 1 and 2.

22 Now, you've got to remember, this is rewinding to
23 2011. In 2012, we detected higher levels and we found what we
24 thought was the source, the Flamingo Cleaners, in the soil.

25 Q. All right. If we can go to the deposition on

1 December 12th, page 40, line 19, through page 41, line 5.

2 THE COURT: And, Mr. Blum, how much more time do you
3 have with this witness?

4 MR. BLUM: Half hour, Your Honor. I'll make sure
5 it's a half hour.

6 THE COURT: All right.

7 MR. GEE: No objections, Your Honor.

8 THE COURT: You may proceed.

9 (Videotaped deposition was played:)

10 Q. *"And so if we look down, do we find*
11 *concentrations of TCE above the detection limit?*
12 *And I'll -- and I'll tell you look at 6/27/11.*

13 A. *"Yes. 4A.*

14 Q. *"Where did that come from?*

15 A. *"I don't know.*

16 Q. *"Could it be another -- could that mean*
17 *that you have another source that you haven't taken*
18 *into account?*

19 A. *"I would have to speculate, but it's*
20 *plausible."*

21 Q. (BY MR. BLUM:) What information -- well, when
22 you -- on December 12th, 2019, when you said you don't know the
23 source, was that the truth?

24 A. Well, I think I just stated here a few minutes ago
25 that it's plausible, anything is plausible.

1 So, yes, that was the truth. But looking at the
2 data again right now and from December 12th, 2019, until
3 10:00 o'clock, 11:00 o'clock last night, all that information I
4 have gathered is still that.

5 But, yes, it's still plausible. If you want to pin
6 me down to what I said there, it's plausible, I said it here,
7 it's plausible.

8 Q. Well, the question, though -- that wasn't my
9 question.

10 When you said you didn't know the source, under
11 oath, as the corporate representative, on December 12th, 2019,
12 was that the truth?

13 A. I don't think I said I didn't know the source. Did
14 I? I thought I said it's plausible. You asked the question --

15 Q. Well, let me read that part again.

16 A. And I said I would have to speculate.

17 THE COURT: Let's move on, please.

18 Q. (BY MR. BLUM:) All right. Now, are you aware of
19 any instance in which Mr. Koelewyn prepared e-mails to his
20 superiors after reviewing data where he concluded that, based
21 on the data that he saw, that the source of VOCs at the
22 turnouts could not be Whittaker?

23 A. I know there was one e-mail that I reviewed. Um, I
24 don't specifically remember the details. I'm sure you're going
25 to pull it up and I'll be able to read it again.

1 Um, he may have speculated that.

2 Q. Did he use the word "speculation," or is that a word
3 you added?

4 A. I would have to read the e-mail again. I know I
5 read an e-mail between Mr. Koelewyn and Mr. Leserman about a
6 detection at a turnout, if that's the one you're referring to.

7 MR. BLUM: Is there -- is there any objection to
8 1383?

9 MR. GEE: Just a second.

10 Objection. Lacks foundation.

11 MR. BLUM: He's testifying as the corporate
12 representative, Your Honor.

13 THE COURT: I understand. But the objection is
14 sustained.

15 MR. BLUM: Okay.

16 Q. (BY MR. BLUM:) Do you recall a situation in which
17 the response to a statement from Mr. Koelewyn about the source
18 of contamination was that we should blame it on lab error or
19 sampling error?

20 A. I do recall in that e-mail saying that it could
21 possibly be laboratory artifacts.

22 Q. Okay. And isn't it correct that, as the corporate
23 representative, you investigated that and you found no factual
24 basis for concluding that Mr. Koelewyn's results were the
25 result of lab error?

1 A. So I think I've testified about what we do when we
2 find anomalies in our sample sites. This particular one, I
3 don't recall what the data is. I think you're referring to the
4 3.0 in June of 2011 at SC-2. Um, but, again, no, since it was
5 non-detect prior and non-detect after, there wasn't a lot more
6 investigation that was done, to my knowledge.

7 Q. Well, that wasn't my question. First of all, that
8 is what I'm referring to, the level -- the 3.

9 But isn't it correct that, based on Mr. Leserman
10 saying I'll blame it on lab error, you investigated it as part
11 of your responsibilities as a 30(b)(6) witness, which is a
12 corporate representative, and you found no basis for concluding
13 that lab error was the reason for the number?

14 A. If I recall my discussions with Mr. Leserman and
15 Mr. Koelewyn, they speculated that that was the issue at the
16 time. But since it was non-detect, the following sample, it
17 never went anywhere.

18 Q. Was there any factual basis for the assertion that
19 the reason for the readings was lab error?

20 A. Not that I'm aware of.

21 Q. But yet Mr. Leserman said let's blame it on lab
22 error; correct?

23 THE COURT: Mr. Blum, next.

24 Q. (BY MR. BLUM:) Now, in the 2012 situation, the one
25 we talked about, wasn't the first reaction of the agency blame

1 it on lab error?

2 A. That's not to my knowledge. I -- I don't know.

3 Q. Now, just a couple questions and then we're done.

4 Would you agree that in 1997, the water agency was
5 aware of perchlorate as a problem in the groundwater?

6 A. In 1997, I was the water quality specialist for
7 Valencia Water Company. I got a -- either an e-mail or a call
8 from Department of Health Services, which is now DDW, asking if
9 they could come out with me and collect samples for a
10 contaminant called perchlorate.

11 Q. And at least one of the wells, V-157, was found to
12 have perchlorate in 1997; correct?

13 A. Correct.

14 Q. And how far is V-157 from V-205?

15 A. V-205?

16 Q. Yeah.

17 A. Um, the way the crow flies, maybe a mile or so --

18 Q. Okay.

19 A. -- to the west.

20 Q. When was V-205 -- started to be drilled?

21 A. I think V-205 was drilled in early 2000s, maybe
22 2004-ish.

23 Q. Now, prior to drilling 2005, do you recall any
24 analysis being done as to whether or not it was in the path of
25 a perchlorate plume?

1 A. So prior to the drilling of V-205, we did something
2 called a drinking water source assessment. And that looks at
3 various contaminants within two -- two -- two-year, five-year,
4 and ten-year zone of that well. I don't recall the result of
5 it, but we completed that -- that information and provided that
6 to DDW prior to drilling.

7 Q. Was there analysis done that, if perchlorate can get
8 to V-157, that why couldn't it get to V-205?

9 A. In the context of the drinking water source
10 assessment, I'm sure it was in there.

11 Q. Do you know or you're just assuming?

12 A. I don't recall.

13 MR. BLUM: That's it, Your Honor.

14 THE COURT: Mr. Gee.

15 **CROSS-EXAMINATION**

16 BY MR. GEE:

17 Q. Good afternoon -- yes, good afternoon, Mr. Alvord.

18 MR. GEE: I would like to display Exhibit No. 533,
19 which was stipulated to.

20 (Exhibit 533 received into evidence.)

21 Q. (BY MR. GEE:) Mr. Alvord, do you recognize this --
22 this schematic map?

23 A. Yes.

24 Q. And what is it?

25 A. The dark blue line shows our treated water. It's

1 called "import." It's the surface -- coming from the two
2 surface water treatment plants getting distributed to the
3 various turnouts throughout the service area boundary. And
4 each of those colors represents the legacy service area. And
5 then the black dotted line is the service area boundary.

6 Q. Okay. And approximately how many miles of pipeline
7 are we talking about?

8 A. Yeah. Of this line, I know we have, as an agency,
9 almost 900 miles of pipe. This would be a good 15 to 20, if
10 not more.

11 Q. Okay. And I'd like to show -- or display
12 Exhibit 537, which was displayed during Mr. Steffey's
13 examination.

14 Do you recognize this photograph, Mr. Alvord?

15 A. Yes.

16 Q. And what does this photograph show?

17 A. That is the blind flange being installed on the
18 improperly abandoned pipeline.

19 Q. And does it show the pipeline being above ground or
20 underground?

21 A. It's underground.

22 Q. Are most of the agency's pipelines underground?

23 A. All of our distribution and transmission lines are
24 underground.

25 Q. And looking at this -- this photograph, this appears

1 to be a rather laborious activity in the sense that you
2 actually had to dig out the -- the lateral. Is that correct?

3 A. Correct.

4 MR. BLUM: Leading.

5 Q. (BY MR. GEE:) Okay. And --

6 THE COURT: When there's an objection, I need to
7 rule.

8 And the objection is sustained. The answer is
9 stricken.

10 Q. (BY MR. GEE:) Okay. Um, if -- if you were to
11 conduct an investigation similar to this over a 15-mile time --
12 or span, would that be a costly venture?

13 A. Quite.

14 Q. Okay. Let's go back to Exhibit 533. Can you point
15 out -- and you can use your finger on the map -- where the SC-1
16 turnout is?

17 A. Yes. It is there (indicating).

18 Q. And where is it written in relationship to the
19 Saugus Perchlorate Treatment Facility?

20 A. That's where that dot is. That's the SPTF.

21 Q. Okay. And earlier you discussed an investigation of
22 the source that -- of VOC detection and SC-1 turnout. Do you
23 recall that?

24 A. Yes.

25 Q. Can we take -- well, let's see. Yeah, can we take a

1 look at Exhibit 1370, which is now stipulated.

2 (Exhibit 1370 received into evidence.)

3 Q. (BY MR. GEE:) Is this the report that you were
4 talking about for the investigation?

5 A. Yes.

6 Q. And can you take -- can you walk me through what was
7 done in that investigation?

8 A. Sure.

9 THE COURT: And just to orient everyone, this is the
10 2012 investigation that was previously referred to?

11 THE WITNESS: Yes, Your Honor.

12 THE COURT: Even though it has a date of March 21 of
13 2013?

14 THE WITNESS: Yes, Your Honor.

15 THE COURT: All right. That's fine.

16 Now, your question once again?

17 Q. (BY MR. GEE:) Can you take us through the steps
18 that the agency went through in this investigation?

19 A. Yes. They found detections that were -- what we
20 considered anomalies, high detections that we wouldn't expect.
21 Um, we discovered that the SC-1 turnout was shut down because
22 they were installing the MCC panels, the motor control panels,
23 and doing some work.

24 Um, at that time, they had -- that's when they had
25 these high levels. They restarted the SC-1. I think it was --

1 it was either August or October -- and flushed it and sampled,
2 and the detections weren't there. But then they came back, I
3 think it was around September, still high. Um, they replaced
4 what at the time was a brass sample tap, um, to stainless steel
5 because they thought it could have been something associated
6 with that.

7 They then reviewed plans and discovered that this is
8 the location where the Honby lateral, that pipe I spoke of
9 earlier, was relocated and abandoned because of development.
10 So they decided to excavate this area to see how it was
11 abandoned. And that's when they discovered that the valve was
12 left open, connected to the pipeline where the sample tap is
13 connected to.

14 Um, they then put a blind flange, which has a gasket
15 and -- it's just a flat plate, and they bolted it on. They
16 flushed everything. They re-sampled. And the detections came
17 back in either non-detect or in levels that they expected.

18 Q. Okay. I think you mentioned the SC-1 sample tap.
19 Is that located near the Honby lateral?

20 A. Right next to it.

21 Q. Okay. I'd like to go back to -- well, while it's
22 still fresh in your mind, these blend ratios that -- gosh, what
23 exhibit was that? I believe it's -- let's take a look at 1372
24 to start.

25 And, Mr. Alvord, when was -- what month was this --

1 was this report for?

2 A. September 2011, but it -- yeah, it was for the
3 September data.

4 Q. Okay. And was that before you found the -- that the
5 anomaly -- the Honby lateral detection?

6 A. Yes.

7 Q. Okay. I'd also like to take -- take -- I'd like you
8 to take a look at what is called the theoretical blend
9 calculation. Up on Header No. 1, there's words in parentheses
10 that says "monthly." How often is -- how -- what -- what does
11 the data in this -- does that suggest that the data here is
12 actually not a daily but, rather, monthly collection of data?

13 A. Correct.

14 Q. And is there a basis for someone to compare the
15 monthly data to a specific date? I think counsel pointed to
16 9/6/2011 and drew a comparison of what the PCE on that date
17 for -- I believe it's SC-2.

18 Do you have any data on that specific date from the
19 Saugus 1 and Saugus 2 turn -- or SPTF?

20 MR. BLUM: Compound and vague.

21 THE COURT: Sustained on vagueness grounds.

22 Q. (BY MR. GEE:) Okay. Mr. Alvord, do you have any
23 specific data from Table 1 that is specific to 9/6/2011?

24 A. I was waiting for an objection.

25 No, not for what's coming out of Saugus 1 and 2.

1 The Saugus 1 and 2 and theoretical blend calculation is done on
2 a monthly basis. The data down below is actual data coming at
3 each individual week.

4 Q. Okay. And do you know if -- if you kept data that
5 would allow you to compare the -- the concentrations taken on
6 9/6/2011?

7 A. Yes. We have all that data.

8 Q. But it's not represented here; is that correct?

9 A. Correct.

10 Q. Okay. You mentioned that after you isolated -- or
11 the Honby lateral, that there were -- that the issue -- that
12 the issue was resolved. Did you have any further anomalistic
13 hits after you blinded the Honby lateral?

14 A. Not at those levels, not that I can recall.

15 Q. Okay. And you've already described your process
16 for -- for getting a high reading. Has that process been in --
17 has that process been followed for a number of years? Or when
18 did that process go into effect?

19 A. Yeah. So we always collect confirmation samples.
20 And depending on the contaminant that we're collecting, because
21 there are different rules and regulations, the repeat sample or
22 the confirmation sample can vary from time to time when you
23 take it. But yes, we still follow that.

24 Q. Okay. Earlier you mentioned that the agency's water
25 system is pressurized. What does that mean?

1 A. So when you open your tap at your house, water comes
2 out. It -- there's pumps and there's tanks that water flows
3 into and it -- it's keeping the water in the pipe and allowing
4 it to move throughout the distribution system.

5 Q. And so does a pressurized system make any difference
6 in keeping out contaminants?

7 A. Yes. If your system was non-pressurized, then
8 potentially contaminants can come in. But if it's a
9 pressurized system, that's completely closed, then contaminants
10 stay out.

11 Q. Okay. And you mentioned that in your investigation
12 process the high readings came after you started up
13 pipelines -- did I understand that correctly?

14 A. We shut down the turnout which, in essence, that
15 section would have been depressurized. And then when we
16 started it up, we pressurized it and flushed it and sampled it.

17 Q. And -- okay. So at that point, the system pressure
18 would not be keeping the TCE in the Honby lateral out. Is
19 that --

20 MR. BLUM: Leading, Your Honor.

21 THE COURT: Sustained.

22 Q. (BY MR. GEE:) Okay. We did go over these
23 theoretical blend reports. Does the agency use these
24 theoretical blend reports to actually conduct its blending?

25 A. No. It's just something that Division of Drinking

1 Water asked if we can come up with a tool to help us predict.

2 We just submit a report to them.

3 Q. Okay. And other than reporting this information to
4 DDW, is it used for anything else?

5 A. No.

6 Q. And you went into a -- or you described indirect
7 blending in your testimony. What is -- what is the difference
8 between indirect and direct blending?

9 A. So Division of Drinking Water has told us that they
10 don't approve of indirect blending. So indirect blending is
11 when you take a pipe that has a contaminant and you connect it
12 to a pipe that doesn't have a contaminant and allow it to go
13 into the distribution system. There's no way to determine how
14 that water is mixing or if it's mixing because of the system
15 hydraulics. It could be pulling it in different directions.

16 Direct blending is when you take both sources of
17 supply, put it in a container, a tank, allow it to thoroughly
18 mix, and then sample it and then pump it into the distribution
19 system. So direct blending is what they would prefer.

20 Q. And what would it take to implement a direct
21 blending process?

22 A. For which location?

23 Q. Um, for -- for the entire distribution system.

24 A. It would be impossible. Um, at V-201 specifically,
25 there's just not enough land. You would need a very large

1 storage reservoir.

2 I did some backwards calculations. And, I mean,
3 it's upwards of 8 million gallons of a storage tank based on
4 the flows that would have to go in. Same with SPTF. There's
5 just not enough land to -- to do something like that.

6 Q. Okay. You mentioned that earlier -- I'm jumping
7 back and forth. But we discussed this theoretical blend
8 calculation. How does an agency actually decide how to -- how
9 much water to blend to reach that non-detect goal at the
10 turnouts?

11 A. It doesn't. It's based on which treatment plant is
12 operating. It's based on how much water is in that pipeline
13 coming through, and we have no way of determining that and --
14 other than this calculation to help theoretically understand
15 what might be happening in the system.

16 Q. Okay. I'd like to display trial Exhibit 472, which
17 was previously admitted.

18 (Exhibit 472 received into evidence.)

19 Q. (BY MR. GEE:) Do you recognize this photograph?

20 A. Yeah. This is V-205. It was previously owned by
21 Valencia Water Company. Now it's owned and operated and the
22 land associated with it have the exclusive operational rights
23 to it to pump groundwater, so -- as with all of our wells.

24 Q. And is this -- is this one of the impacted wells
25 that's the subject of this litigation?

1 A. Yes.

2 Q. And has the agency began the design for -- design of
3 the remedy for this -- for this well?

4 A. Yes.

5 Q. And has the agency submitted any paperwork to DDW
6 for -- for a water supply permit?

7 A. I believe we submitted --

8 MR. BLUM: Objection, Your Honor. It's beyond the
9 scope of the direct.

10 THE COURT: I'm going to allow it so as not to have
11 to have him recalled in his case. So this will be considered
12 essentially in their case for the purposes of these questions.

13 MR. BLUM: Your Honor, they rested.

14 THE COURT: I'm going to allow it.

15 MR. BLUM: Thank you, Your Honor.

16 Q. (BY MR. GEE:) Okay. And you also mentioned the
17 importance of V-201.

18 A. I don't think I answered that question.

19 Q. Oh. Go ahead. I'm sorry.

20 A. Can I?

21 THE COURT: You can answer the question.

22 THE WITNESS: The application, permit application,
23 which is just a one-page application. We haven't submitted the
24 97-005 documents.

25 Q. (BY MR. GEE:) Okay. Did you ask at any time or

1 earlier -- prior to your earlier deposition, did you ask
2 whether or not -- DDW whether or not -- what it would take to
3 obtain a permit for V-201?

4 A. Yes. We presented a number of things to them --
5 MR. BLUM: Objection, Your Honor. It's -- the
6 answer is yes or no.

7 THE COURT: I'm going to need to hear you better, so
8 if you could please speak into the microphone.

9 MR. BLUM: Your Honor, I object after the word
10 "Yes," we did. It's not -- there's --

11 THE COURT: He's answered the question.
12 Next question.

13 Q. (BY MR. GEE:) And what did the agency do?

14 MR. BLUM: Hearsay, Your Honor.

15 THE COURT: Not as asked.
16 You can answer.

17 THE WITNESS: Yeah. We've asked them -- I
18 specifically have asked them if we blend, if we --

19 THE COURT: Wait. Hold on. So the answer is that
20 you -- without saying what you asked, what did you actually do?
21 You went to the agency? What did you do?

22 THE WITNESS: We asked DDW --

23 THE COURT: All right. So you went to DDW to
24 inquire.

25 MR. GEE: Okay. Let me -- let me -- I'm sorry,

1 Your Honor. Let me ask a foundational question.

2 Q. (BY MR. GEE:) Do you meet with DDW on a periodic
3 basis?

4 A. Yes.

5 Q. And how often?

6 A. Currently, we have standing quarterly meetings, but
7 we exchange e-mails and phone calls periodically. But we do
8 have routine meetings at this point.

9 Q. And is V-201 one of the topics of your quarterly
10 meetings?

11 A. Yes.

12 Q. And is it discussed pretty regularly?

13 A. Every single quarterly meeting that we have, we
14 discuss 201.

15 Q. Okay. At any time did you ask DDW what it would
16 take to get a permit for V-201?

17 A. Yes.

18 Q. And what -- do you remember what DDW's response was?

19 MR. BLUM: Hearsay.

20 THE COURT: Overruled.

21 And it's not being offered necessarily for the truth
22 but, rather, what, in fact, the agency is doing and why it is
23 doing what it is doing.

24 THE WITNESS: We've asked if we implemented
25 treatment for VOCs, could that expedite the permit, as well as

1 other things.

2 Q. (BY MR. GEE:) And what -- do you recall what the
3 response was?

4 A. They said it would help us get a permit quicker if
5 we implemented treatment.

6 Q. Okay. And, um -- are you aware of whether the
7 agency has conducted any type of study or evaluation to
8 determine what -- what the best course of action would be for
9 V-201?

10 A. So we conducted what's referred to as an EE-CA.
11 EE-CA, engineering evaluation cost analysis.

12 Q. And about when -- when was that completed, if you
13 recall?

14 A. Within the last year and a half.

15 Q. Okay. And do you recall what the -- what the
16 purpose of the EE-CA was?

17 THE COURT: This is going to take a little bit, it's
18 okay. And we're going to take our break at this point.

19 So it's now 12:30. We're going to break until
20 1:00 o'clock.

21 Please remember, do not speak to anyone about the
22 case, the people, or the subject matter involved. Continue to
23 keep an open mind.

24 We will see you back at 1:00 o'clock.

25 Thank you.

1 THE COURTROOM DEPUTY: All rise for the jury,
2 please.

3 (Out of the presence of the jury:)

4 THE COURT: We're in recess until 1:00.

5 (Morning proceedings adjourned at 12:25 p.m.)
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CERTIFICATE OF OFFICIAL REPORTER

COUNTY OF LOS ANGELES)
STATE OF CALIFORNIA)

I, MYRA L. PONCE, FEDERAL OFFICIAL REALTIME COURT REPORTER, IN AND FOR THE UNITED STATES DISTRICT COURT FOR THE CENTRAL DISTRICT OF CALIFORNIA, DO HEREBY CERTIFY THAT PURSUANT TO SECTION 753, TITLE 28, UNITED STATES CODE THAT THE FOREGOING IS A TRUE AND CORRECT TRANSCRIPT OF THE STENOGRAPHICALLY REPORTED PROCEEDINGS HELD IN THE ABOVE-ENTITLED MATTER AND THAT THE TRANSCRIPT PAGE FORMAT IS IN CONFORMANCE WITH THE REGULATIONS OF THE JUDICIAL CONFERENCE OF THE UNITED STATES.

DATED THIS 30TH DAY OF NOVEMBER, 2021.

/S/ MYRA L. PONCE

MYRA L. PONCE, CSR NO. 11544, CRR, RDR
FEDERAL OFFICIAL COURT REPORTER

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